

MANUFACTURERS' RECORD

A WEEKLY REVIEW OF THE IRON, STEEL, METAL & HARDWARE TRADES.

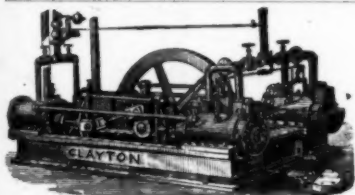
AND A MANUFACTURING AND TEXTILE PAPER, DEVOTED TO THE UPBUILDING OF SOUTHERN MANUFACTURES AND THE DEVELOPMENT OF THE MATERIAL RESOURCES OF THE SOUTH.

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BALTIMORE, MAY 3, 1884.

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Vol. V. No. 12.

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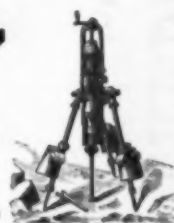
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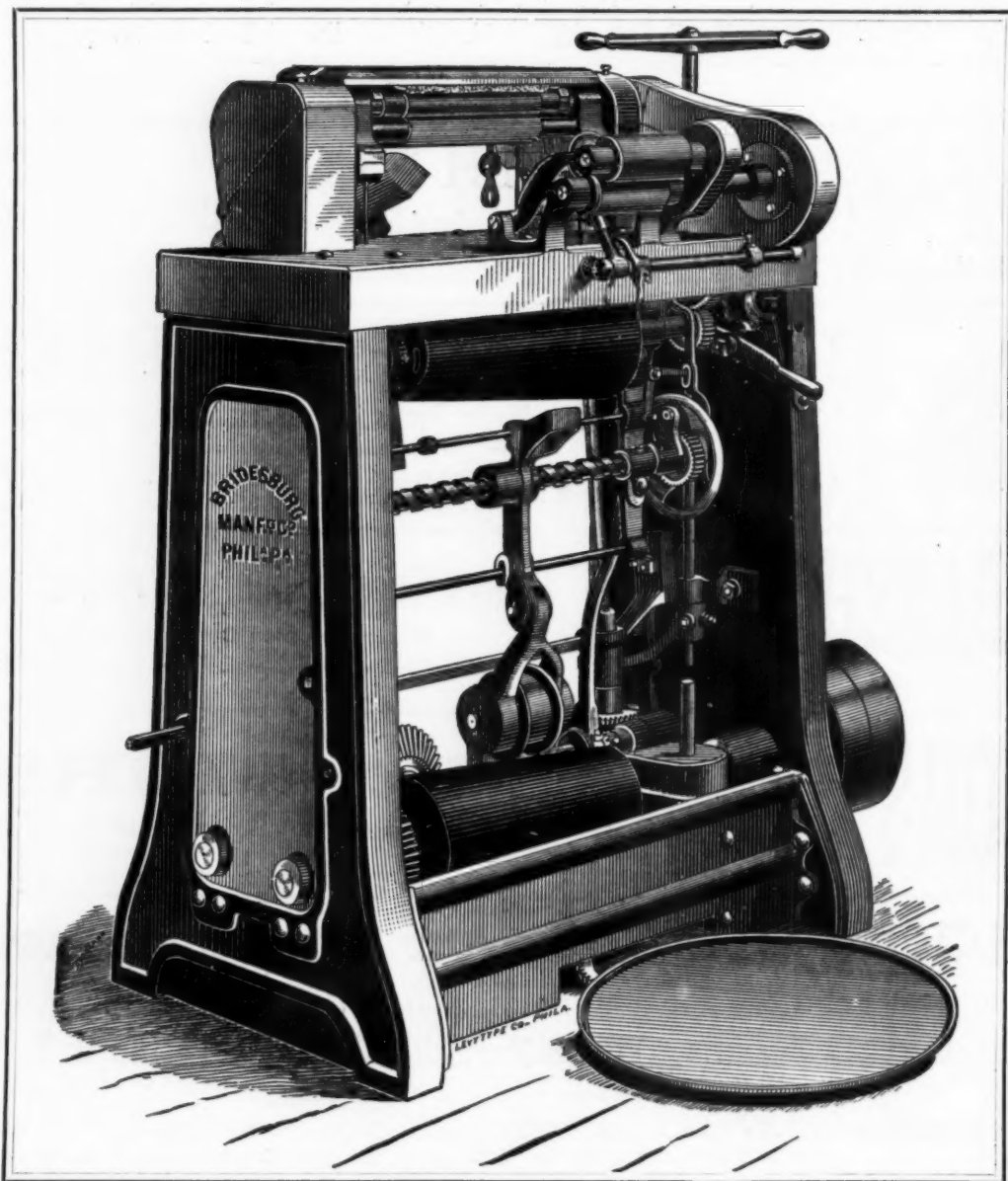
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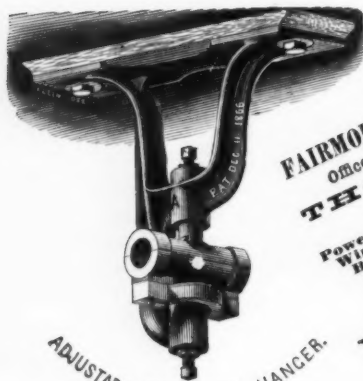
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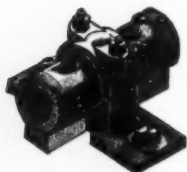
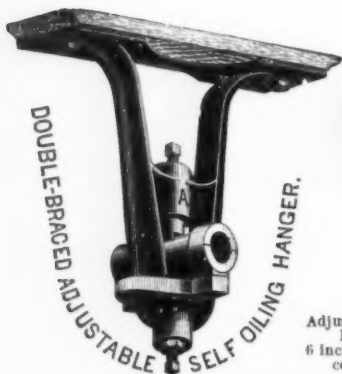
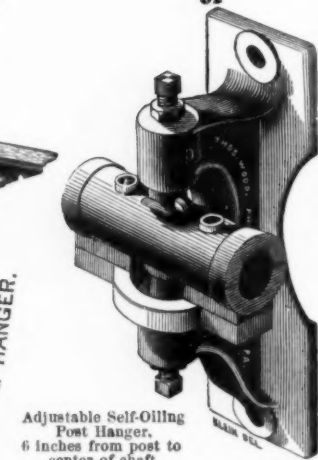
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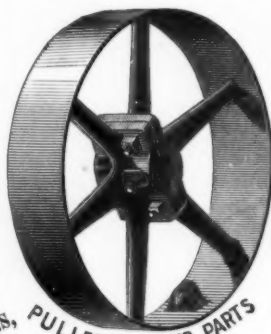
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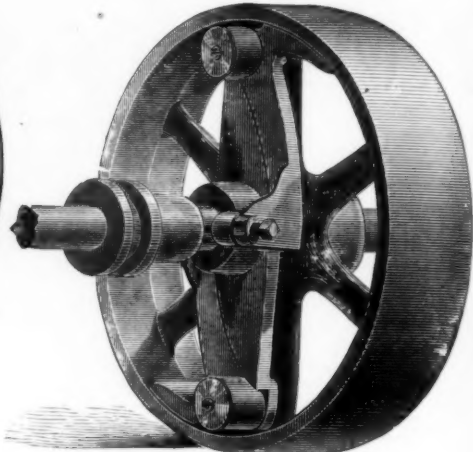
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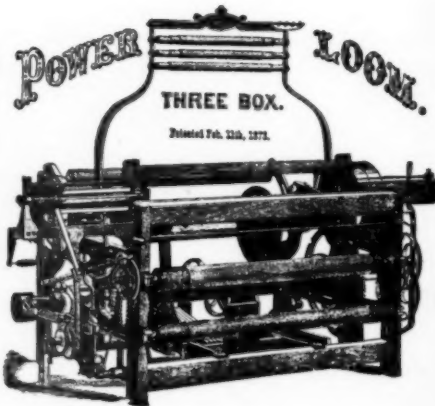
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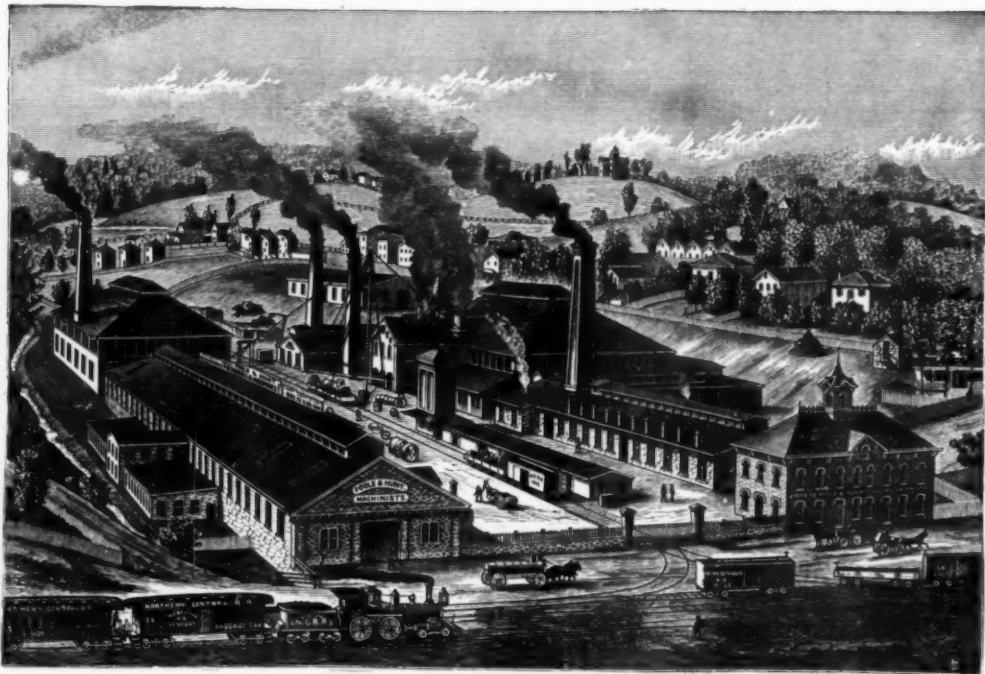
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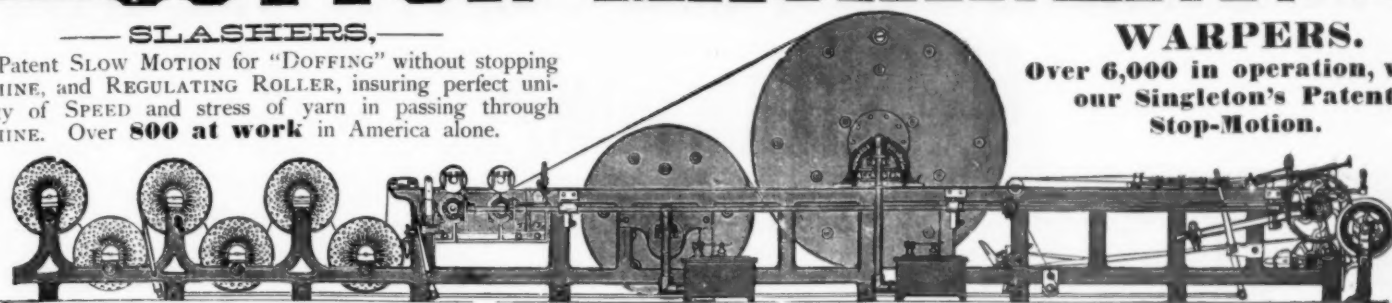
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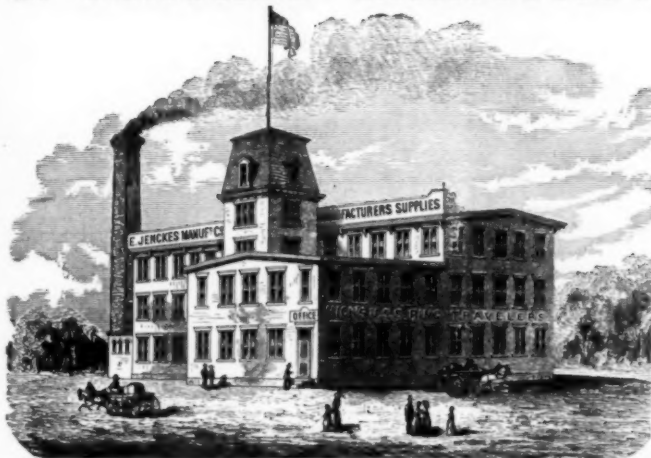
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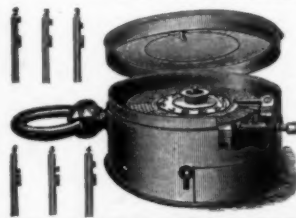
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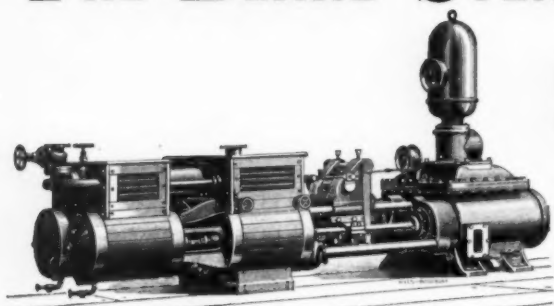
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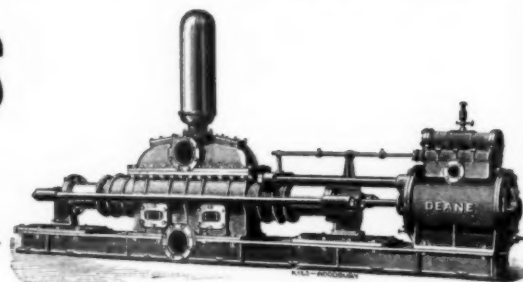
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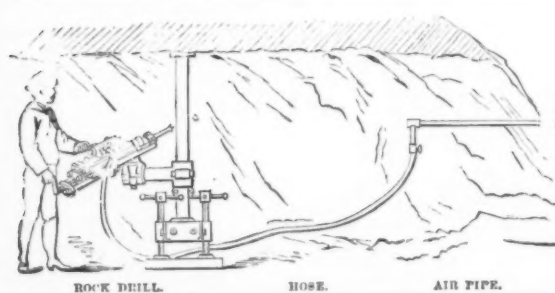
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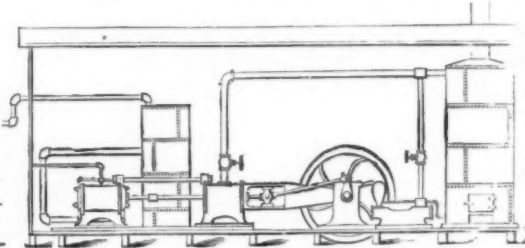
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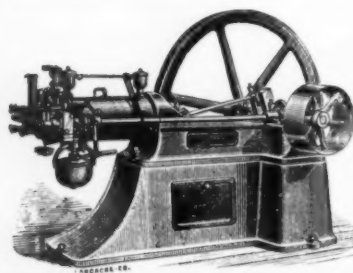
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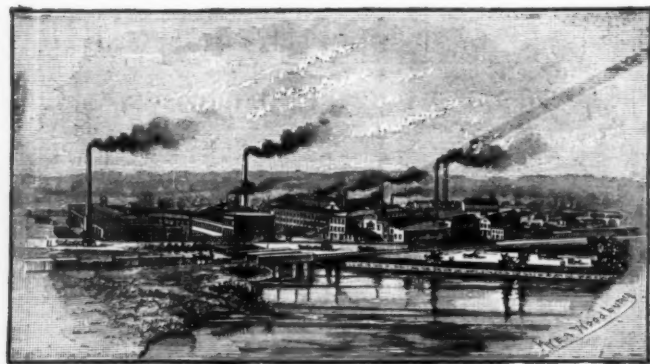
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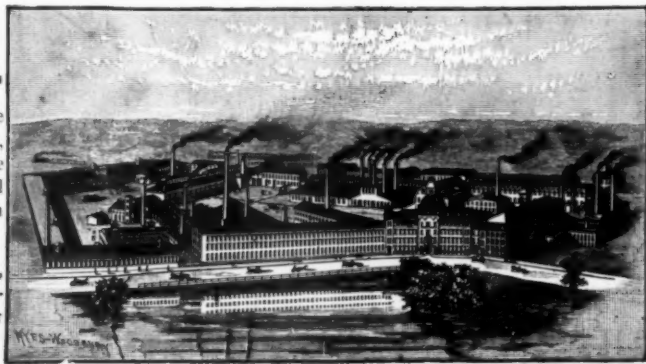
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BALTIMORE, MAY 3, 1884.

CORRESPONDENCE relating to the manufacturing, mining, lumbering and all other material interests of the Southern States is solicited. We invite those interested in the development of the South to make free use of our columns. Reaching so many capitalists in all parts of the United States seeking profitable investment in the South, the MANUFACTURERS' RECORD offers an excellent chance for the people in that section to place the advantages of each locality before those likely to be interested. We will take great pleasure at all times in telling what has already been accomplished in the South, and showing up the opportunities of doing still more,—so if you desire to attract immigration or capital, or if you know of an opening for profitable investment in manufacturing, mining or kindred pursuits, write us an account of it. It will be published free of cost.

MESSRS. J. H. SMITH & SONS, proprietors of foundry and machine works, Athens, Tenn., in closing a letter to us, say: "The majority of citizens here are in favor of a protective tariff and the upbuilding of Southern industries." In this the people of Athens show their wisdom; for, if they are really in favor of building up Southern industries, they must be in favor of a protective tariff; and if they favor a protective tariff they must naturally favor the building up of Southern industries.

Our readers will confer a favor upon our advertisers and upon us, as well as benefit themselves, if, whenever they write to anyone advertising in this paper, if it is only for a catalogue, they mention that "your advertisement was seen in the BALTIMORE MANUFACTURERS' RECORD." A careful compliance with this request will be much appreciated.

Activity in Cotton Mill Building at the South.

There is no let-up in the organization and building of new cotton mills and the enlargement of old mills at the South. Within the last few weeks quite a number of important enterprises of this kind have taken shape. The Durham Cotton Mill Co., of Durham, N. C., have placed an order for their entire machinery, including 8,500 spindles; the Columbia Cotton Mill Co., of Columbia, Tenn., have commenced work on a \$175,000 mill; negotiations are now pending for the machinery of a \$50,000 mill in Trenton, Tenn., and for one of 3,000 spindles at Yadkin's Falls, N. C. The Nashville, Tenn., Cotton Mills have decided to more than double their capacity, and have given orders for about 4,000 spindles and other machinery; while the Charleston, S. C., Manufacturing Co. are increasing their spindles from 15,000 to 21,000. The Mountain Island Mills, of North Carolina, lately purchased by Messrs. Wm. J. Hooper & Son, of this city, will be enlarged and about 4,000 spindles added, making 8,000 in this mill by the fall. M. Morgan, Laurel Hill, N. C., is enlarging his factory and putting in weaving machinery. Gwyn, Harper & Co., Patterson, N. C., have made large additions to their machinery; the Athens, Ga., Manufacturing Co. have lately received considerable new cotton machinery; while a number of other Southern mills are increasing their capacity.

At Rockingham, N. C., the new Roberdel Mill is just getting 3,000 spindles and 100 looms into position. A \$100,000 cotton and woolen mill has been organized at Talladega, Ala., and one with a capital of \$125,000 at Knoxville, Tenn.; at Fayetteville, N. C., a hosiery factory will soon be started; and at Columbus, Ga., two mills are proposed,—the Eagle and Phoenix Co. having voted to build a \$700,000 mill, and a number of other capitalists having decided to erect another mill in that town. At Pulaski, Tenn., a company with a capital of \$100,000 has been organized to purchase and greatly enlarge the cotton mill now in operation there. Roanoke, Va., has raised within a few thousand dollars (and this will soon be forthcoming) of the required amount needed for a \$300,000 cotton factory, and Lynchburg, in the same State, has about made sure of a \$400,000 mill. Selma, Ala., has received a proposition from Northern capitalists to put \$200,000 into a mill in that city, provided the same amount is secured in Selma; and offers of this kind are now before quite a number of other Southern cities. There are also a large number of important woolen manufacturing enterprises that have just been organized.

This summary is merely of what has been done in less than two months, and from it some idea can be gained of the activity in enlarging

old mills and the building of new ones. If we were to include all the cotton mill enterprises inaugurated at the South since January 1st, they would represent more than double the capital required for the building of the mills given in this list.

Why a Railroad is Not Built.

As we have previously remarked, a railroad, even with high freight charges, is vastly superior to no railroad at all, and in saying this we but voiced the sentiment of nearly all wise men. Down in South Carolina, however, some of the people don't think that way, or, at least, they didn't a few years ago; and, moreover, the law-makers of that State had an idea that railroad owners had no rights which they were bound to respect. With these ideas in their heads they passed some most unjust and arbitrary laws, that placed the control of the railroads absolutely in the hands of a commission, from whose decisions there could be no appeal. Naturally, capitalists were not quite so foolish as to continue to invest their money in building new roads in that State, and so a number of promising projects were abandoned. The Seaboard & Roanoke Railroad, of which Col. John M. Robinson, of this city, is the able president, and in which other Baltimore capitalists are interested, had planned an extension of their system that would have required the building of a new road entirely across South Carolina, passing through Newberry and other points to Augusta, as well as to one or two other points in Georgia. To build and equip this road meant the spending of probably from four to six million dollars. The money had all been secured and preparations had about been completed for actual work, when this railroad commission law was passed. That at once put a stop to everything.

At the last session of the South Carolina Legislature, however, the managers of the Seaboard & Roanoke Road, seeing the dissatisfaction of the people with the practical effects of their railroad laws, applied for a charter for this new road, exempting it from any control of the railroad commission. Col. Robinson appeared before the members of the Legislature and explained the position of his company;—they asked for no help of any kind from the State or from any of the counties; they had the money to build the road and only wished the privilege of managing their own property after it had been built. The charter passed one branch of the Legislature by a very favorable vote, but was defeated in the other, probably because the members did not appreciate the fact that they were dealing with men who meant what they said when they emphatically refused to build this road if it was to be subjected to the control of the commission. After the bill had been defeated and when Col. Robinson

was about to leave Columbia, a number of the members went to him and begged him to reconsider the matter, but without inducing him to change.

Now, here is a road which, if built, would be of vast benefit to South Carolina; it would open up a new country and furnish much-needed transportation facilities to a large territory; but until the law-makers of that State learn to leave the management of railroads to their owners, the people along this proposed line, as well as along many others, must do without any railroad advantages. Railroads are essential to the development of the South, and without more of them there would soon come a halt in the progress of that section. Will our Southern people be so foolish as to continue their unwise railroad legislation, and thus effectually keep out foreign capital?

A New Southern Route Proposed.

A partial survey has been made of a route for the proposed James River & North Carolina Railroad, the idea of the projectors being to furnish, through the Valley Railroad, now reaching to Lexington, a good route to Atlanta. Their plans are, so we are informed, for a route "from Lexington to Big Island, over the Richmond & Alleghany, through Liberty, Bedford, Franklin and Henry counties, in Virginia, to Walnut Cove, in North Carolina, and thence, with the North Carolina Midland, to Mooresville or Statesville, thence to Lincolnton, over the Carolina Central to Shelby, where it will meet a road to be built jointly by the Georgia Central and Carolina Central, between Shelby and Spartansburg. This line will certainly be built, as an agreement was recently made between these two corporations. At Spartansburg we secure the Atlanta connection through the Georgia Central system."

Such a route as this would undoubtedly open up a magnificent country. We think that there can be no doubt of the future extension of the Valley Road Southward, but what is the most desirable route can hardly be said until the surveys now in progress are complete. This James River and North Carolina route would seem to present a very desirable opportunity for reaching the South at a moderate cost.

THE Iron Age says: "We are of opinion that the price of pig iron will be much lower in this country in the years to come than it is now, and we believe that the South is destined to become more of an element in supplying the iron wants of the country than she is to-day; but when the cheap pig iron dawns upon us the North will continue in the business at the old stand, though Northern workmen will not then be so well paid as they are now."

Good Openings for Capital.

In our "Business Chances" Department will be found several advertisements that deserve the attention of capitalists contemplating investments in the South. One of the best cotton mills in the South, peculiarly well located, is for sale. It has magnificent water power that can easily be increased from its present force of 6,000 horse-power to 20,000 horse-power. A fine tract of over 200 acres of land, with the very best granite in abundance, and a good village of tenement-houses. The mill is now running over 8,000 spindles. It is widely known as one of the best located and best paying mills in the South. In every respect it is a most desirable piece of property. It is owned by one gentleman alone, who desires to retire from business on account of age. There are also three other cotton mills and a woolen mill advertised for sale on very advantageous terms, requiring comparatively little capital. Any of our readers desiring to invest in Southern property of any kind, such as cotton, woolen or flour mills, timber lands, iron ore or coal mines, &c., can hear of some excellent bargains by addressing the publishers of this paper.

A COUPLE of months ago a party of Pennsylvania mechanics, having a fair amount of capital, asked us for advice in regard to starting a foundry and machine shop in the South. We published a few lines asking for information in regard to the best openings for such an enterprise, and in response received a large number of letters from various points in the South. These letters, including a very excellent one from Jackson, Tenn., were duly forwarded, and last Monday we received the following:

JACKSON, TENN., April 25, 1884.

MESSRS. BIGSBY & EDMONDS,
Publishers *Baltimore Manufacturers' Record*:

DEAR SIR:—Having located at this place it becomes my pleasant duty to thank you for your generous assistance in this direction. We have a good firm, under style of N. S. Sherman & Co. We have a wide and favorable field for foundry and machine business here, with every encouragement and inducement held out to us from the merchants and other prominent business men here. We propose, with our perfected machinery and a skilled artisan at the head of each department, to handle our business promptly, at a nominal cost, and in an unsurpassed finish. Accept our heartiest returns for your influence, and, feeling very much obliged, we are,

Yours truly,

N. S. SHERMAN & Co.

WE would call the attention of our readers to the advertisement of a coal mine in Tennessee for sale. This property consists of 8,000 acres of timber land and 4,000 acres of coal land, with the mines equipped for work, and with all necessary buildings, railroad track, &c. Southern timber and coal lands are advancing in value so rapidly that an opportunity of securing a desirable piece of property of this kind should not be overlooked by moneyed men.

A Prosperous Town in a Prosperous State.

SOUTHERN DEPARTMENT

BALTIMORE MANUFACTURERS' RECORD,
GREENVILLE, S. C., April 26, 1884.

I wish to tell you about Greenville, South Carolina. It is the chief city of the northern section of the State, and the third city in the State in population and wealth,—only being surpassed by Charleston, and Columbia, the capital. Greenville has 9,000 people, an increase of 3,000 since the census of 1880 was taken, or a growth of 1,000 a year for the three years: a fine rate of expansion. The county is the second manufacturing county in the State, ranking next to Charleston. It has 26 thriving towns. It is the second largest agricultural county in the State, leading all in the use of improved implements. In the town there are to-day 15 new residences and 6 business houses going up. The place has three colleges,—a female, a Baptist and a military college,—and is an educational centre.

I do not know a more attractive cosmopolitan little Southern city than Greenville. It has honorable antecedents, culture, wealth and progress. It is the centre of a rich farm region, and is a manufacturing point. It combines to a singular degree the advantages of both factories and agriculture.

The county has 188 manufacturing establishments, among which are 8 cotton mills, 98 grist mills, 2 foundries, 64 lumber mills, and 16 miscellaneous factories, embracing furniture, cotton-seed oil and other establishments. Its manufacturing capital is as follows:

Cotton mills.....	\$ 929,900
Flour.....	159,600
Foundries.....	10,000
Lumber mills.....	96,000
Miscellaneous.....	190,455
Total capital.....	\$1,385,955

MANUFACTURING PRODUCTS.

Cotton mills.....	\$2,420,000
Flour.....	161,000
Foundries.....	25,000
Lumber mills.....	170,350
Miscellaneous.....	190,455
Total products.....	\$2,967,805

The labor employed is 1,531 hands.

The cotton mills are eight, with \$929,900 capital, 48,000 spindles, 773 looms, 1,215 hands, using 20,286 bales cotton, or 10,143,000 pounds cotton, making 8,417,000 pounds yarn and 12,500,000 yards of cloth.

Greenville has the only plaid mill in the State and the only furniture factory. The Greenville mills are the Camperdown and the Huguenot. There are also the Piedmont, 10 miles from Greenville on Saluda river; Batesville Mill, on Rocky Creek, 10 miles east of Greenville; Pelham Mill, on Enoree river, 11 miles from Greenville; Reedy River Factory, 6 miles southeast of Greenville; and Fork Shoals Factory, 12 miles from Greenville. These mills make, some of them, yarns, sheetings, shirtings, drills, &c.

There are the Greenville Furniture Factory, J. H. Taylor; coach factory, H. C. Markley; paper mill, Dr. W. R. Jones; and two wool carding machines. There are five tanneries and five brickyards. The tanneries make \$38,000 worth of products. The brickyards make 2,500,000 of brick. The industries net 20% profit.

The county is a rich farm county. It has 2,731 farms, of 470,048 acres, with 121,487 acres in cultivation. The farming is progressive. The planters here use 6 sowers, 58 reapers and mowers, 63 sulky plows, 147 harrows, 38 threshers, 2,035 guano distributors, 756 cotton planters, 38 riding cultivators, 91 horse rakes, 91 farm engines of 546-horse power, and 203 cotton gins.

There is prohibition in the county, except in Greenville, and therefore law and order, decreased crime, improved labor, enhanced prosperity and greater production.

The fence law is in operation. Farming costs less, there are better crops, improved

stock and better markets. The saving of fence labor and timber is a good profit. Men keep fewer and better stock. More milk and butter is obtained. Beef brings better prices. Milk cows have improved 25% and beef cattle 50%.

Among the valuable and profitable new industries are grape and wine raising and fish ponds. There are 175 acres of vineyards near here, of which 75 are in bearing. The yield last year was 40,000 pounds,—6,000 gallons of wine. The grapes sell for 15 cts. a pound and wine \$2 a gallon. There are 20 fish ponds for carp. There are five Jersey farms here. The country is beautiful, well watered, healthful and rich. There are schools and churches, temperance and religion.

I do not know of a better country for immigrants.
I. W. AVERY.

Trenton's Cotton Mill.

TRENTON, TENN., April 21, 1884.

Editor *Baltimore Manufacturers' Record*:

Our cotton mill is fully on foot. The capital stock, \$50,000, has all been subscribed, a charter obtained and registered under the name of the Trenton Cotton Mills. The company was organized on the 19th by electing the following officers and directors: J. M. Senter, president; R. Z. Taylor, vice-president; Geo. Everett, secretary; and the following directors, in addition to the officers named above: Dr. T. J. Happel, J. W. Elder, D. E. Jetton, N. L. McRee, M. C. Holmes and E. Richardson. The directory is composed of some of the best business men in the community,—men who have made a success of every undertaking. All necessary committees have been appointed, and work will be begun at once. The building site will be fixed upon at the next meeting of the directory, on the 26th.

The machinery committee, consisting of J. M. Senter, R. Z. Taylor and Dr. T. J. Happel, are already corresponding. The mill will begin with the best improved American machinery. As soon as contracts for machinery are made, and plans and specifications for the building gotten, the building committee will begin.

T. J. HAPPEL.

A County of Great Resources.

TALLADEGA, ALA., April 19, 1884.

Editors *Baltimore Manufacturers' Record*:

If you will grant the use of a portion of your valuable paper I will tell your readers of the great resources of Talladega county, Ala.

We have white, gray, lavender, pink, black and variegated marbles of all qualities, and in the greatest abundance.

Brown hematite ore so free from silicious matter and phosphorus that iron of unexcelled purity can be made. This ore we have in the greatest abundance, and iron made therefrom commands a ready sale at high prices. Gold is found, and mining will pay handsomely when the mine can command the right kind of machinery to separate the ores.

We have limestone, sandstone, cement rock, fire clay and fine sand, tripoli, &c., in abundance, yellow pine and other varieties of timber.

Our valleys are famed for their great fertility, and the climate here is so equable that epidemics never prevail. Water in flowing streams and bold springs is everywhere. Two railways run through the county lengthwise and are about ten miles apart. A great trunk line crosses the northern end of the county. Another is being constructed across the centre, and yet another will soon be built across the southern portion of the county.

We have all the elements required for a prosperous society, but lack energetic capital to develop the marble and iron interests of the county. Parties wishing

information more in detail can obtain a copy of the Alabama Industrial, an excellent local paper, devoted to the industries of this county and the adjacent section of country.

Another Correspondent Sings Talladega's Praise.

TALLADEGA, ALA., April 22, 1884.

Editor *Baltimore Manufacturers' Record*:

As you kindly solicit information in regard to the advantages for investment and manufactories, more especially in the South, I volunteer some points of interest, and predict that in the near future it will be a marvel that so little has been known of this highly-favored section. Here a kind Providence has been lavish in showering His benefactions by giving one of the most genial climates on the continent, with abundance of water, good society, schools and churches in abundance, and proverbial for its healthfulness, and, what is a great blessing, exemption from mosquitoes. In connection with all these social, educational and healthful advantages, we have more agricultural and mineral wealth than can be found in the same area of territory outside of its boundaries. Iron predominates, and its vast ore deposits are being worked, producing the best and highest-priced iron from any other source. Coal from an adjoining county will soon be supplied, in quantity, quality and price to supply all requirements for manufacturing purposes.

Marble of all grades and colors are found in inexhaustible quantities on and near transportation, with ample water power for its development. Kaoline in quantity and quality which ought to bring manufacturers. No better place anywhere for cotton factories to be run by steam or water power, with cheap labor and fuel; the wonder is that it has not already been the seat of many manufactories of cotton and wood. We have copper, gold, clays, lime-stone, tripoli, hydraulic lime-stone, in fact almost everything is here to attract the attention of parties seeking pleasant homes, and at the same time having everything to give employment to capital and enterprise. I might also say that along the whole line of our railroads there is an abundance of pine timber which is rapidly enhancing in value, and in a few years cannot be had except at fabulous prices.

Now is the time to secure some of our valuable deposits of iron ores. Large syndicates and companies gather them up, and soon a monopoly will be held by a few companies, while it is for the interest of the country that it should be distributed among many manufacturers, and thus draw a larger community of labor to be fed by our farmers, gardeners, &c., &c. Without trespassing too much upon your columns at one time, will for the present ask you to publish the enclosed estimate for iron manufacture here as compared with Pittsburgh. As I am a native of the soil and largely identified with its interests, I shall be very happy to give any general or special information in regard to the advantages as well as the resources of this and adjoining counties.

Yours very respectfully,

GEORGE W. CHAMBERS.

P. O. box 1,224.

The estimate as to the cost of pig iron making at Talladega, to which Mr. Chambers refers, is summed up as follows:

2 tons ore.....	\$1 25	\$3 50
1 1/2 tons coke.....	2 30	2 88
1-5 ton limestone.....	50	10
Labor.....		2 00
Repairs and interest.....		1 50
Total.....		\$8 98

THE offices of the Rand Drill Co., Manhattan Mining Co., Rendrock Powder Co., J. R. Rand & Co., A. C. Rand, N. W. Horton, have been removed from 240 Broadway, New York, to 23 Park Place.

Protection and the South

[Macon (Ga.) Telegraph and Messenger]

Some of the Telegraph's irreconcilable contemporaries—and it is a matter of regret that there are such—cannot resist the temptation to abuse this journal for its tariff principles. Abuse calls for no answer; we care not to reply to such; but whenever argument has been brought to bear against us, we have not failed to support our position with statistics, facts, and the logic of facts.

The Telegraph's position is easily explained. It is this: The best policy for the United States is to protect every industry against outside competition, and the result will always be to (1) build up industries at home, (2) give employment at good wages to labor, (3) create a market for agricultural products, (4) cheapen manufactures by home competition, (5) and make the country self-sustaining.

This policy has enriched the North and East; it will enrich the South and West. When this journal, nearly three years since, began to advocate the policy described, there was not a daily paper in Georgia, and as far known but one weekly, that agreed with it. To-day the six most influential out of the twelve dailies in the State and twenty weeklies stand with it for the same principles. The growth of the protection principle in the neighboring Southern States has been equally as rapid. The Richmond Dispatch, Nashville American, Nashville Banner, Memphis Avalanche, Chattanooga Times, New Orleans Picayune, New Orleans Times-Democrat, Louisville Post, Mobile Register, Selma Times, and the Daily Age, of Birmingham, Ala., are in the ranks of the protection army, in company with many fine weeklies throughout the States named.

The main difficulty with which the Southern protectionists have had to contend has been the prejudice against protection growing out of the fact that for twenty years it has been embodied in the Republican platforms. The fact has been used as an argument against the Telegraph time and again. It seems to have escaped the recollection of many of the older editors in the South and the observation of the younger, that prior to the war the South was about equally divided as between Whigs and Democrats, and that the former advocated protection in almost the identical terms of what is now known as the Ohio platform.

As the manufacturing and industrial interests of the South increase, and the increase is now constant and marvellous, the protection principle will strengthen. The day will come in no distant year when the South will be its warmest advocate. The prophecy of Mr. Kelley that the South and New England will some day stand together upon this platform is bound to be realized. The longer prophecy of Edward Everett that they will change places on the tariff question may be fulfilled; events begin to foreshadow such a result.

These facts confront us with a determination irresistible. Neither the Telegraph nor all the papers of Georgia united could stay the growth of the protection principle, but they may speed it to the advancement of the State's material interests. In this work the Telegraph is engaged and will continue. Let the press unite upon the same line.

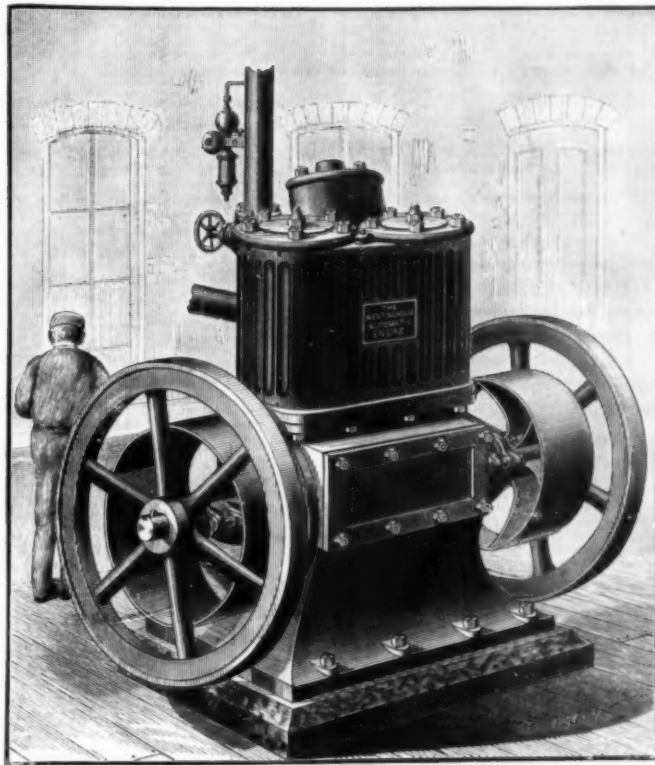
Nor the least important of the objects of interest in Cincinnati is the Palace Hotel, which is an imposing structure eight stories high, fronting on three streets. All the floors are reached by elevators; the office and dining-room are lighted by electricity, and it is provided with all the modern aids to comfort and convenience. The rooms are newly papered and it is elegantly furnished throughout.

The Westinghouse Engine.

Although a comparatively new machine, the Westinghouse Engine has met with decided favor, and its growing popularity attests its great value.

In designing the Westinghouse engine,

maintaining the engine in all essential respects new, even after long use. Fourth. To secure high speed, which modern practice and experience has shown to be desirable in a degree for all purposes of power, and absolutely essential in many cases. Fifth. To retain with the above advantages

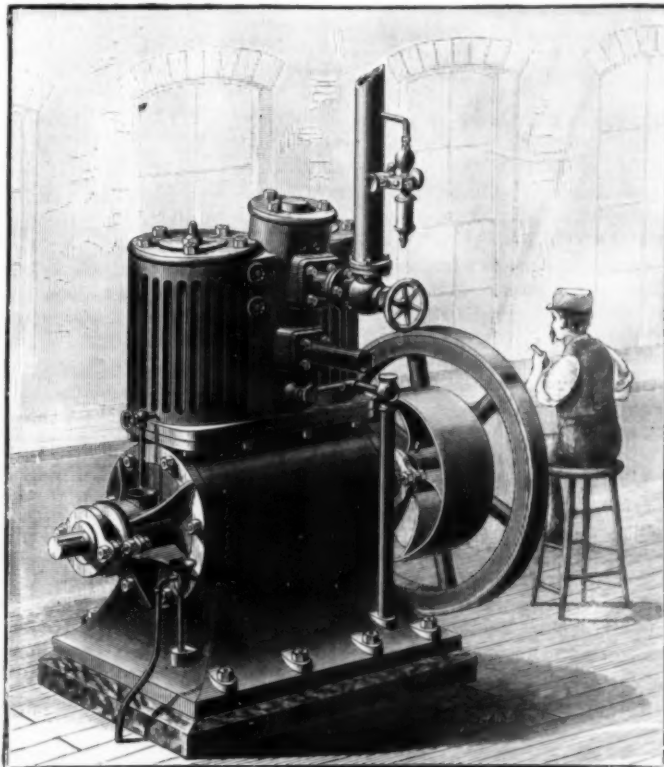


THE WESTINGHOUSE ENGINE—FRONT VIEW.

the special objective points are stated to have been: First. To render the engine, by its extreme simplicity, and the peculiarities of its design as to adjustments, keying up, packing, oiling, etc., independent of the careless attendance of an unskilled engineer. Second. To reduce the requirement of repairs to a minimum by

a proper grade of fuel economy.

In their catalogue, the manufacturers say: "The usual and daily duties of the engineer in charge of the common horizontal or vertical double-acting engine are: to start and stop; to fill the cylinder lubricator; to keep the oil-cups full, and oil all the running bearings frequently; to keep



THE WESTINGHOUSE ENGINE—REAR VIEW WITH ONE FLY-WHEEL REMOVED.

making the good performance of the engine independent of wear. Third. To make the repairs, when required, at the lowest possible expense of time and money by renewing (not patching up) removable and inexpensive wearing parts only, by duplication from the works to gauge, thus

the pedestal and various 'brasses' delicately keyed up between the alternatives of heating and pounding; to pack sundry joints and stuffing boxes; frequent adjustment of the valve motion to secure an equal valve travel; occasional lining up all over; making minor repairs; wiping; and the indis-

criminate use of the monkey-wrench on general principles. As against these, this engine has no oil-cups; the running bearings lubricate themselves continuously; there are no 'brasses' about the engine that can be keyed up, or a necessity for it if there were; there is not a packed joint or a stuffing box on the engine; the valve adjustments are made final and permanent before the engine leaves the shop; the engine is self-contained and independent of alignment; short of absolute breakage there are no minor repairs; the parts being enclosed and the main bearings being protected from drip; there is little or nothing to wipe; and since every nut is set up solid and kept so, there is no room for carelessness with the wrench. It is a practical feature of the design that the wearing parts are removable and not adjustable, and hence it approximates the literal truth that the duties of an engineer are confined to the first two counts. The value of this fact, in locations where skilled help is unavailable, is apparent."

This engine is adapted to a wide range of uses, and its decided merits commend it to the attention of manufacturers. Full particulars can be obtained from the Westinghouse Machine Co. of Pittsburg, Penn.

List of Patents.

The following patents were granted to citizens of the Southern States, bearing date April 22, 1884. Reported expressly for this paper by Louis Bagger & Co., mechanical experts and solicitors of patents, Washington, D. C.

- 297,485. Aycock, J. A., Whitesburg, Ga. Lumber-rack.
- 297,341. Barkany, Louis, Baltimore, Md. Clothes-hanger.
- 297,104. Bickle, C. A., Hagerstown, Md. Clover thrasher and huller.
- 297,325. Brook, J. W., Amherst county, Va. Ventilation of barrels and boxes.
- 297,227. Brown, O. H. P., Clarksville, Ark. Leveling and plumbing instrument.
- 297,329. Dougherty, J. H., Whistler, Ala. Lock for sliding doors.
- 297,510. Drouet, Peter E., New Orleans, La. Grain header and harvester.
- 297,359. Ebert, John, Frederick, Md. Mail-bag.
- 297,367. Farrell, Cicero C., Shubuta, Miss. Device for attaching and detaching horses.
- 297,512. Firey, S. M., Clear Spring, Md. Double-tree.
- 297,349. Foster & Collier, Viola, Ark. Water elevator and carrier.
- 297,374. Fretwell, J. T., Atlanta, Ga. Roofing compound.
- 297,354. Griffin, Shoup & Cade, Harrisburg, Tex. Rotary engine.
- 297,355. Halbert, Jno. B., Maitland, Fla. Lifting jack.
- 297,411. Kelly, W. H., Lexington, Va. Fanning mill.
- 297,371. Ladd & Whitaker, Baltimore, Md. Show-case.
- 297,423. Lester, J. S., Atlanta, Ga. Brick-kiln.
- 297,048. McFall, E. H., Memphis, Tenn. Telephone call and switch box.
- 297,427. McGregor, Bradford, Covington, Ky.—Air medicator and injector.
- 297,429. Merryman, F. W., Baltimore, Md. Lamp.
- 297,399. Mosser, D. F., Baltimore, Md. Forming felt boots, shoes, &c.
- 297,435. Nolan, Patrick, Hummelt, Tenn. Railway track gage.
- 297,443. Peel, L. G., Hazelhurst, Miss. Wagon brake.
- 297,447. Prunty, J. E., Baltimore, Md. Hose-pipe nozzle.
- 297,536. Purnell, R. H., Rosedale, Miss. Hoisting device for vessels.
- 297,330. Schaffer, C. M., Louisville, Ky. Voloctopede.
- 297,539. Shoemaker, W. S., Baltimore, Md. Dumping coal-cart.
- 297,461. Smith, W. R., Orlando, Fla. Feed-guide for printing presses.
- 297,190. Staggs, B. F., Henderson, N. C. Coffee-pot.
- 297,300. Stricker, J. W. and G. R., Louisville, Ky. Car-starter and brake.
- 297,192. Strocker, Jno., Jr., Mobile, Ala. Car brake.
- 297,319. Vanlohe, H., Baltimore, Md. Bleaching raw cotton.
- 297,320. Walker, M. V., Venasoga, Miss. Station indicator.
- 297,306. Wesson, J. A., Wingo, Ky. Horse detacher.
- 297,307. Wetmore, W. H., Raleigh, N. C. Boot or shoe.
- 297,523. Wildt, William, Richmond, Va. Engraver's tool.
- 297,481. Williams, D. R., Dallas, Tex. Reflector holder for lamps.
- 297,323. Worsick, J. E., Montgomery, Ala. Oil-cup feeder.

CONSTRUCTION DEPARTMENT.

We publish, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

J. H. SMITH & SON, Athens, Tenn., will build an extension to their foundry.

The Troy Fertilizing Co., Troy, Ala., expect to start a bag factory, and desire information as to machinery.

The United States Electric Light Co. will establish a branch company in Atlanta, Ga.

Smith & Alexander will manufacture furniture in Chattanooga, Tenn.

The Western Maryland Railroad Co., of Baltimore, will at once build their new grain elevator at Hagerstown, Md.

Nelson H. Meese, Barton, Md., expects to start a woolen mill.

A \$50,000 hotel is to be built in Pensacola, Fla. W. D. Chipley can give particulars.

S. Brownell, of the Iron Mountain Furnace Co., Ironton, Wis., and also connected with other large companies, will build a 100-ton furnace in Alabama, probably at Talladega.

The Bainbridge Lumber Co., Bainbridge, Ga., which have just started up their new mill that will cut 150,000 feet of lumber a day, will soon add a drying house, planing mill, sash, door and blind, and barrel factory.

Tyler Cotton-Seed Oil Co., Tyler, Texas, previously reported as organized, have commenced work on their buildings; capital, \$40,000.

The Limestone Flouring Mills, Maysville, Ky., are being improved and new machinery put in.

The Yadkin Falls Manufacturing Co., of Yadkin's Falls, N. C., have recently been incorporated for manufacturing yarns and sheetings. They already have a building to be run by water-power, and now negotiating for machinery. Will run 3,000 spindles and 50 looms.

N. S. Sherman & Co. have just located at Jackson, Tenn., to start a foundry and machine shop.

C. W. Alexander, Charlotte, N. C., will start soap factory. Has already put in part of machinery.

Charles Crowell, Ashland, Ky., will start planing mill.

The Charleston Manf. Co., Charleston, S. C., have ordered about 6,000 spindles to be put in by September 1, when this mill will run 21,000 spindles.

W. W. Taylor, Havre de Grace, Md., will probably build water-works at Chestertown, Md.

Isaac S. Rowland, manufacturer of spokes, &c., Fayetteville, N. C., will put up new factory.

J. W. Shelton, Millport, Ala., will add shingle mill, gin, &c., to his present grist mill.

An extensive soap factory is to be put up in Sherman, Tex.

C. C. Hagemeyer & Co., Butler, Ky., have just completed large saw mill and will erect roller process flour mill.

Snell & Knox, Pine Bluff, Ark., have nearly finished their sash and blind factory.

W. R. Woodward, of St. Louis, receiver of the Texas & St. Louis Railroad Co., says the machine and car shops of his road to be built at Pine Bluff, Ark., as previously mentioned, will be put up at once. Expect to employ several hundred hands.

As previously mentioned, the Locust Point Land Co. of Baltimore will build very extensive machine and iron shipbuilding shops at this city for the H. A. Ramsay Co. of Baltimore, the Land Company agreeing to put in the motive power, and the H. A. Ramsay Co. to put in the tools and other machinery needed.

W. M. Nalls & Co., Montgomery, Ala., have their new planing mill nearly ready for work.

The machine company organized by Geo. F. Drew and others, of Jacksonville, Fla., as previously mentioned, has been incorporated as the Industrial Machine Works; capital \$50,000.

A pressed brick factory will be started at Birmingham, Ala.

The Market Street M. E. Church, Chattanooga, will erect a new \$30,000 building.

Some prospect for a \$50,000 compress in Rome, Ga.

C. H. Sloan, W. T. Shumate and R. R. Asbury are trying to organize a canning factory company at Greenville, S. C.

The Richmond & Danville Extension Co. will construct the Columbus Gap Line of their Georgia Pacific Road, at a cost of about \$900,000.

The committee on water-works at Berryville, Va., have rejected all the bids offered as too high. Want other bids.

George Faulker, Tampa, Fla., is erecting a hotel.

The Gulf Shot Tower Co., capital \$35,000, has been chartered at New Orleans to manufacture shot, lead pipe, sheet lead, &c., to own and operate lead mines, &c. Frank Kennedy is president and George Denegre vice-president.

Perkins & Holliday, Dublin, Ga., will build a 30-mile railroad from Dublin to a point on the East Tennessee.

A company is organizing to build water works in Durham, N. C. Mayor of Durham can give information.

Incorporated—The Helena & North Arkansas Railway Co., capital \$1,000,000.—Directors are Samuel J. Clark, Henry N. Pharr, Wm. F. Pharr, Wm. F. Gill, J. F. Wendland and G. D. Joyner. Construction will be commenced at office. Office will probably be Helena, Ark.

A new steam cotton factory is to be erected at Columbus, Ga.; particulars later.

The Pacific & Great Eastern Railway Co., of Arkansas, has secured \$7,000 per mile in subscriptions, and will organize at Fayetteville, Ark. E. B. Harrison and others, Fayetteville, interested.

\$20,000 has been subscribed towards a cotton factory in Troy, Ala.

The Mercer Coal and Grain Co., Harrodsburg, Ky., will build cigar and tobacco factory, and also coopers shop.

The Louisville, Ky., Improvement Co. has been organized by Dr. Norvin Green and others, with a view of founding a manufacturing town near that city.

An effort is being made to organize another cotton factory company in Rome, Ga.

There is talk of a new furnace at Gadsden, Ala.

Savannah, Florida & Western Railway will build new depot at Thomasville, Ga.

Clifton Dancy, J. M. McGlathery and S. D. Hays will start hub and spoke factory at Jackson, Tenn.

Reported that the "Sunset" Road will build new line from Austin, Texas, to Menardville.

Shelby county, Texas, has contracted for a \$35,000 court-house and jail.

Isaac Marshall, Bridgewater, Va., expects to start plaster mill.

The Norfolk & Western Railroad Co. (office at Roanoke, Va.) have made contracts with owners of coal lands in the Flat Top region of Virginia, whereby they agree to develop their mines and to put out 1,000 tons of coal a day, with probability of reaching 2,000 tons very soon.

Work on the Washington, Cincinnati & St. Louis Railroad (directors: U. L. Boyce, Luray, Va.; D. H. Cook, Washington; Chas. E. Kimball, Philadelphia, and others.) will be vigorously pushed. It is understood that the Dora Coal Mines, of Virginia, will be developed as soon as this road reaches them.

The King Gin and Machine Co., of Montgomery, Ala., whose buildings were lately burned, will occupy a temporary structure and fill orders until they can rebuild.

Dr. A. S. Kissell, of Chicago, is trying to organize an electric light company in Knoxville, Tenn.

The Penitentiary Board, Austin, Texas, will build a foundry and also establish water-works, to cost about \$7,000, at the penitentiary.

The Chicago, Parkersburg & Norfolk Railroad Co. has been incorporated, with office at Parkersburg, W. Va.; capital stock is \$3,000,000. The incorporators are Mr. Charles Smith, Dr. Isaac Scott, A. N. Williams, R. B. Beckwith, W. L. Coles, George Loomis, A. B. White, Charles F. Scott, G. Gibbons and S. F. Shaw.

Incorporated—The Charleston & Pittsburgh Railway Co., of W. Va., office at Charleston, Kanawha Co., W. Va., capital \$1,500,000. J. N. Camden, of Parkersburg, W. Va.; Wayne McVeigh, of Philadelphia, and others, interested.

The Duffy Malt Whiskey Co., capital \$100,000, has been incorporated in Baltimore, by John A. Robb, Henry Duvall and others.

The Globe Manufacturing Co., of Houston, Texas, capital \$20,000, has been incorporated by A. P. Nibbs, F. Cowgill, E. L. Dennis and Wm. A. Grant.

J. O. Tyler, superintendent of the new woolen mill, Liberty, Va., is getting his machinery into position.

A compress company, capital \$10,000, has been organized at Okolona, Miss., with R. D. Abernethy, secretary and treasurer.

It is reported that Northern capitalists have the option of purchasing the Bertha Zinc Works, at Martin's Station, Va., for \$400,000. If the sale is made a large number of new furnaces will be built.

The Bluestone Mining Co. will develop a valuable coal mine near Pocahontas, Va., as soon as the Norfolk & Western can build a branch road to the mine.

The Valley Building & Brick Co. has been organized at Memphis, Tenn., to make bricks, &c.

D. G. Slaughter, of Tuscola, Michigan, and others, have bought 57,000 acres of pine land in Alabama, and will erect large saw mill.

Several saw mills are to be erected near Spring Hill, W. Va. The Black Band Iron and Coal Co., of Spring Hill, can probably give particulars.

A movement is on foot to build water works in Orlando, Fla., and Beaumont, Texas, is discussing the same idea.

P. N. Olinghouse, Lonoke, Ark., will erect a flour mill.

P. Jacobsen, King's Mountain, N. C., will enlarge his carpet factory.

Incorporated in Nashville, Tenn.—the Mineral Glass Manf. Co., by T. M. Schlier, J. J. Bullock, Julius Sax and others.

The Franklin Elevator and Warehouse Co. has been organized at Franklin, Tenn.

The Wheeler, Osborn & Duckworth Manf. Co. has been incorporated in Nashville, Tenn., by A. J. Wheeler, R. F. Osborn and others.

It is expected a fire-proof court-house will be built at Montague, Tenn.

The Virginia Compress Co., Norfolk, Va., will build a new cotton press to replace the one lately destroyed by an explosion.

Wm. H. Edwards, of Coalburg, W. Va., W. A. Quarrier, of Charleston, W. Va., and others, have organized the Kanawha & Paint Creek Railroad; office at Charleston.

The West Virginia Gas Fuel Co. has been organized at Wheeling, W. Va., by S. S. Bloch, T. H. Logan, C. R. Hubbard, and others, to mine and bore for oil and gas, to construct lines of tubing, &c.

The Western Artesian Well-Boring Co., of Charleston, W. Va., has been incorporated, to bore, drill, dig and excavate any kind of well or mine, to mine or work ore of any kind, to make bricks, &c. James P. Wintz, Philip Wintz, John M. Collins, of Charleston, and others, interested.

An ice factory and a steam brickyard are to be started at Longview, Tex.

Talk of a bagging factory at Griffin, Ga.

Philadelphia capitalists have bought largely of mineral lands in Appomattox county, Va., and will work them.

P. J. Pauley & Bro., St. Louis, will build a \$12,000 jail in Vermilionville, La.

A company has been organized to build iron foundry at Texarkana, Ark.

The United States Electric Light Co., of New York, propose to establish branch works in New Orleans.

S. F. Montgomery, of Memphis, Tenn., is working up a \$50,000 compress company in San Antonio, Texas.

Kentucky is to build a branch penitentiary to cost \$150,000.

Wilson & Co. will build a factory near Cambridge, Md., for grinding marl for fertilizer purposes.

Incorporated—the Kentucky River and Contrary Creek Coal, Mining and Manufacturing and Harbor Co.

BURNED.

Saw and grist mill and gin of J. B. Wilkerson, near Rockford, Ala.

E. A. Brooks' saw mill, at Whitesburg, Ga.

Gin house and machinery of A. J. Simmons, Pike Station, Ala.

Mill and gin of J. A. Bullock, near Ochlocknee, Fla.; loss \$3,000.

Stove foundry of E. Farley, at Paducah; loss about \$12,000.

Saw mill at Erie Mill Postoffice, N. C.

LOCKWOOD, GREENE & CO. MILL ENGINEERS

Office, 65 Westminster St., Providence, R. I.

Carefully prepare plans, specifications and estimates furnished for the construction, equipment and organization of new mills and the revision and improvement of old.

MANUFACTURING.

Subscribe to the *Baltimore Manufacturers' Record*. Price \$3 per year.

BALTIMORE.

MESSRS. WRIGHT & COLWELL, brass founders and finishers, Nos. 32 and 34 Lee street, report business as in a flourishing condition, having received large orders from this city and the South. They make all kinds of castings on short notice and at reasonable prices; also make a specialty of bearings.

MR. JOHN B. ADT, engineer and machinist, Nos. 88 to 92 N. Holliday street, now has on hand a good many orders for new and general repair work. He is working his full force, completing a city order for his well-known tobacco dryer and two granulators for New Jersey.

MESSRS. JOHN G. HETZELL & Co., manufacturers of metal cornices and roofing, Howard and Lexington streets, have been exceedingly busy for some time past. They are constantly in receipt of large orders from parties in this city.

MR. JOHN N. MARQUETTE, machinist, No. 6 West Falls avenue, reports his business as quite brisk, having sufficient new and repair work on hand to keep him going for some time. During the past winter he did a large and remunerative trade, and the prospects are that his spring and summer trade will be heavier.

THE Ewart Patent Detachable Chain Belting for elevators, or for the transmission of power in place of belting, &c., is becoming more popular and the demand is steadily on the increase. Mr. R. Swornstedt, the general Southern agent, No. 18 East Falls avenue, reports orders coming in very liberally.

MR. WM. R. EMERSON, general agent E. M. Birdsall Co., Nos. 6 and 8 North Liberty street, has just sold four complete outfits in the South, consisting of engines, saw mills and threshers. He reports his business booming.

THE Vigilant Fire Company, of Shippenburg, Pa., have placed their new bell in position over their engine house. It weighs about 500 pounds and is said to give out a clear, full tone. It was cast at the well-known foundry of Messrs. McShane & Co., North street, Baltimore. This firm lately sent a bell to Houlton, Me., which elicited a very flattering letter to the effect that the purchasers were satisfied and that it was a first-class article in every respect. Messrs. McShane & Co. have also been awarded contracts or orders for three large bells for Harbor Grace, N. F.; a large bell of nearly one and one-half tons for a court-house in Indiana; a ton bell for New Jersey, and a one and one-half ton bell for Cleveland, Ohio.

IN GENERAL.

THE Carrollton Furniture Factory, capital \$40,000, Carrollton, Ky., has just started up with every promise of great success. The machinery is from the well known wood-working machinery manufacturers, Cordesman & Egan, of Cincinnati.

THE Babcock & Wilcox Company have just placed with Leishman & Snyder, of Pittsburg, an order for 500 tons of open hearth steel. The care which they exercise in purchasing material is shown by their specification upon which it was ordered, wherein they demand that a coupon shall be attached to each plate, which shall show 55,000 to 65,000 pounds tensile strength, with 20 per cent. elongation in 8 inches, to stand bending double both before and after being heated and plunged into cold water, without showing any cracks, and the analysis is not to show to exceed 8-100ths of one per cent. phosphorus. Steel to be branded and stamped "60,000 lbs. T. S."

THE Yadkin Falls Manufacturing Co., of Yadkin Falls, N. C., have recently been incorporated for the manufacture of cotton yarns and sheetings. This company have already erected their mill, which is 118 feet long by 50 feet wide and two stories high. They will run by water-power, and although some distance from the railroad they are favored with many of the necessary points for economical manufacturing, viz: good help, reliable power, and in the midst of a fine cotton-growing section. The company will run about 3,000 spindles and 50 looms. The officers of the corporation have recently been among the machinery builders of the North, and contemplate going ahead immediately with their enterprise, so as to be able to start about September 1st.

At the meeting of the stockholders and creditors of the iron manufacturing firm of Brown, Bonnell & Co., in Youngstown, Ohio. \$1,000,000 of the \$1,250,000 indebtedness being represented, an adjustment was effected, and it was agreed to organize a new company called the Brown-Bonnell Iron Company, with a capital stock of \$1,200,000.

The Cotton Industry.

The cotton interests of the country, from the planting of the staple to its manufacture, are of such great extent that a few facts bearing upon its history may prove of value. From a recent lecture of Mr. Thos. Pray, Jr., of Boston, we gather some interesting facts regarding the cotton industry. Maryland seems to have had the honor of being the first of the colonies to raise cotton, the earliest record being that in 1736 this staple was cultivated on the western shore of this State. In 1784 a few bags of cotton were exported from South Carolina to England; and as this was the first shipment made, its hundredth anniversary will be commemorated at New Orleans by the great Cotton Exhibition, the preparations for which are now in progress. In 1791, Moses Brown, founder of Brown University, wrote in regard to the necessity of finding some method of taking the fibre from the seed. In 1793 the invention of the cotton gin solved Brown's problem. The first mill established was at Beverly in 1789. In 1788 fancy weaving was started in Rhode Island. In 1810 we had 74 mills in the United States driven by water power and 14 driven by other means; the aggregate capital employed being \$4,800,000. In 1811 the power loom was invented, and in 1813 the first complete mill for producing cotton cloth from the bale was erected, with 1,700 spindles and 36 looms. In 1816 there were 120,000 spindles in the United States, 68,142 being in Rhode Island and 34,463 in Massachusetts. By 1837 we find that the capital invested in cotton mills was \$60,000,000, the number of spindles having increased to \$2,500,000.

From 1857-61 the largest increase in manufacturing industries that has ever occurred was realized. From 1861-65 the prices varied very largely, creating great confusion among the manufacturers. Good middling upland cotton started at 10½ cts. and got as high as \$1.90 to \$1.92 and from that extreme price down to 32, 28, and then settled at 20-23 cts. The rates of wages also advanced with the raw material. In 1831 women in Lowell received \$2.31 to \$2.60 per week, in 1864 women earned \$12 to \$14 per week. To-day the average pay of women and children in Lowell is \$5.30 to \$5.60 per week. From 1867-73 we were on an even keel, the only thing interfering with prosperity being the inability of the mills to make goods enough, although wages and values were fluctuating. In 1865, 1866 and 1867 men who were building machinery and making goods could not make all that was wanted. When you commence to increase your production, as was done at that time, a general reduction of quality is found, but diminishing the

production in quantity you also increase your cost of producing. In 1873 goods commenced to find actual values. Mill property which cost \$1,000,000 in 1865-67 during the depression following 1873 sold at \$212,000, and under such circumstances it is no wonder that many mill-owners went out of the business. For twelve or thirteen years our business had been managed by incompetent men. A large part of our depression to-day is due to the enhancement of values about the years 1867 and 1868 and bad management on a falling market—using up surplus and not keeping up quality and production.

The best cotton from the South is carried out of the country because somebody else is able to work it up cheaper than we can. We are lacking much in the knowledge requisite for working up the best qualities of goods. We must start and teach in every practical branch and detail of the business. The touch and eye require an education similar in fact to that necessary for a professional career. We must give to the South all they can do, as they can manufacture at home, and must turn our attention to taking the place of England, and making such goods as our skill and experience will allow us to do which has heretofore been imported. Cotton spinning as a business has succeeded, taken in the aggregate. But the men who have best understood their business have given the best dividends to their stockholders. The census of 1880 gives interesting facts to think about; 1,570,344 bales of cotton were used, costing \$86,900,000. The supplies necessary were 16,000,000 and the product was of the value of \$192,000,000; 1880 was not an extraordinary year, yet there was considerable of a margin between the cost and the product. The power in 1880 was 148,750 horse power of water and 106,000 horse power of steam. Aggregate steam power to-day, however, largely exceeds that of water, even in Lowell and Lawrence. In 1831 there were 801 establishments in the United States; in 1851, 1,094; in 1860, 1,091; in 1870, 956; in 1880, 756. A mill of 100,000 spindles is not an extraordinary one to-day. Manufacturing establishments are decreasing in numbers, while the spindles are increasing. In 1831 the capital engaged was \$40,000,000; in 1870, \$140,000,000; in 1880, \$208,225,000.

The survival of the fittest is being shown in these establishments as in other industries. The decrease in the number of establishments by absorption by the larger and the lack of union among the manufacturers are among the chief causes for the peculiar condition of the industry to-day. In the United States, differently from foreign nations, there is a lack of consonant action to keep down production. Every one is bound to make the most out of his neighbor.

NEW PUBLICATIONS.

A. E. BARTHEL, New York, has issued a handsomely colored circular of twelve pages, illustrating and describing the Reiser, Stauffer & Barthel patent lubricators and patent solidified oil. By this method of lubrication a saving of from fifty to seventy-five per cent. is claimed by Mr. Barthel, and substantiated by the testimonials of leading manufacturers. Among the other advantages are perfect cleanliness, reduced wear of bearings, saving of time, no hot boxes, shafting or bearings, and lubrication from below, side or top. Full descriptive circulars will be sent upon application to A. E. Barthel, P. O. box 2,837, New York.

LIPPINCOTT'S MAGAZINE for May contains: The Hill-Suburbs of Cincinnati, illustrated; The Perfect Treasure; How the Roman Spent His Year, two papers, II, by William F. Allen; Along the Columbia River and Puget's Sound; Retaliation, a story; Diary of the last European who

Rode Through the Desert from Berber to Suakin; At Last, by Annie Porter; Shakespeare's Tragedies on the Stage; The Rev. Nahum, by M. R. Francis; A Day in Early Spring, by Horace Lunt.

Together with other short stories, poems, and articles of interest upon current topics. J. B. Lippincott & Co., publishers, Philadelphia.

HOW TO BUILD, FURNISH AND DECORATE. New York: Co-operative Building Plan Association.

A large and handsome volume, consisting of elevations and plans for houses, barns and every description of out-building, accompanied with clear and concise instructions; also a complete treatise on house furnishing and decoration. No one who contemplates building should fail to get this book, and those who are not going to build will find it full of practical suggestions and plans that will enable them to render their homes more attractive. It is a valuable publication, worth many times its price.

ORANGE JUDD, editor of the American Agriculturist for some thirty years, but unconnected with its business management for a year or two past, has lately retired from its editorial department and located in the West. He desires to gather a complete "Postal-Card Album" of his old readers and friends, and requests them all to send him now a postal giving their present location and address, naming also, when convenient, the years in which they were his subscribers. Mr. Judd's address is Chicago, Illinois.

MESSRS. EWEN BROS., of New York, have issued a comprehensive cotton chart, printed in colors, giving the number of cotton plantations and their acreage, the yield of the various States, the consumption of spinners in different countries, the port receipts and exports, with their value, and the overland and interstate movement. It also gives a comparison of stocks in the United States, Great Britain and the Continent, the amount of cotton in transit, the visible supply and the prices of middle uplands in New York from 1870 to date. The product of the East India and Egyptian crop is also shown.

THE Century for May presents a greater variety of matter, probably, than any previous number. The frontispiece is a portrait of Chief Joseph, the Nez-Perce. Among the more important articles are "The Salem of Hawthorne," by Julian Hawthorne, profusely illustrated; "Recent Architecture in America," with eighteen illustrations; "The Metopes of the Parthenon," by Charles Waldstein, with illustrations. "Dr. Sevier," by G. W. Cable, and "An Average Man," by Robert Grant, are continued. Other stories, sketches, essays and poems make this number a remarkably interesting one.

THE Columbus, Miss., *Dispatch* joins in the general commendation and says: THE BALTIMORE MANUFACTURERS' RECORD is doing good work for the South.

Important to Southerners.

Persons arriving in New York via Cortlandt Street Ferry, by taking the 6th Avenue Elevated Train, corner Church and Cortlandt streets, can reach the Grand Union Hotel in 42d street, opposite Grand Central Depot, in twenty minutes, and save \$3 carriage hire. If en route to Saratoga or other summer resorts via Grand Central Depot, all baggage will be transferred from hotel to this depot free. 600 elegantly furnished rooms \$1 and upwards per day. Restaurant the best and cheapest in city. Families can live better for less money at this hotel than at any other first-class hotel in the city.

The Brown Hammer.

The Brown Rubber-Cushioned Power Helve-Hammer shown in the accompanying illustrations retains every advantage heretofore applied to cushioned helve hammers, while having improvements which greatly increase the force of the blow, and so adding to the capacity and efficiency that it merits the attention of all prospective purchasers of a tool of this class.

It is claimed that "the best cushioned hammers of the day are actuated by a crank, (or its equivalent—an eccentric,) raising the hammer with the same speed that it is brought down, and as the weight of helve and hammer is to be raised at each blow, it follows that more power is exerted in raising the hammer than in delivering the blow, which is the reverse of what a smith does, while in the Brown Hammer an improvement has been added by which three-fifths of the revolution of the crank is used to raise the hammer, and two-fifths to deliver the blow, thus equalizing the power applied by slowing the up movement of the hammer, and proportionately accelerating its down action, aided by its own gravity, with such velocity as to increase the weight or power of the stroke in proportion to the increased sharpness or quickness of the blow. Comparative tests have been made with the reputed best helve hammers in use, with the surprising results of reducing cold steel a given amount in two-thirds the time used by other hammers. The increased power of the hammer has been thus plainly measured time and again with like speed, stroke, size, and positions of different hammers, with like favorable results, and can be shown to any applicant."

Particular attention has been given in obtaining simplicity of parts, convenience of adjustment, strength and endurance. It is made of iron and steel, (except the helve,) each part well proportioned for its use, and fitted with care by the most skilled mechanics. It has two rubber cushions, so placed as to dissolve the concussion of the blow most perfectly between the driving and the driven parts, and the cushions are easily adjusted to increase the flexibility or rigidity of the helve as desired. The hammer is readily adjusted to large or small work by being raised at its trunion bearing, through gearing and screws, by which both sides are moved at the same time and alike to any desirable position, and lengthening or shortening the helve pitman adjusts in length by turning—being made of right and left screw parts, working in a long threaded slit thimble, with clamp bolts to hold solidly in position after being adjusted to place.

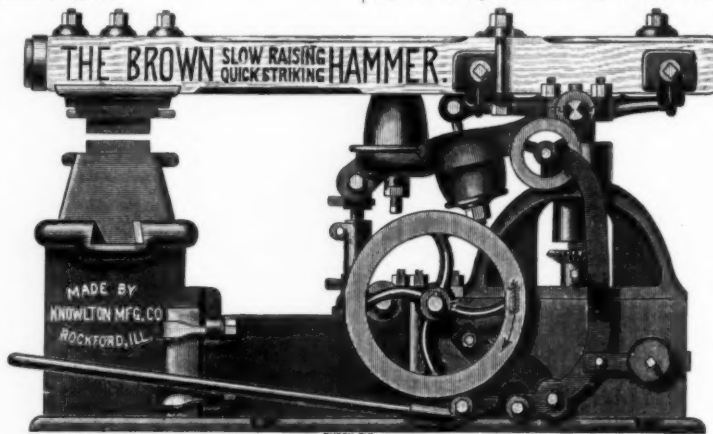
The length of stroke is quickly made without changing the relative position of hammer to anvil. A nut recessed washer, leather packed, is used upon the bolts, holding the hammer to the helve in such form as to retain the nuts from loosening, thus relieving the bolts, and, at the same time, securing the much desired solidity of parts for great service. The brake acts upon an eccentric formed part of driving pulley, to secure the stopping of hammer in a raised position. The helve oscillates upon a trunion the same height as the face of the die, to strike a square blow impacting the metal on all sides alike, even to the upsetting of an inch disc of steel with as much evenness as a steam hammer, thus most nearly approaching it for die work. The helve is adjustable up or down, or to either side, as desired. The anvil block is separated from the hammer by wood, and by proper setting the jar of the anvil by the blow is dissolved so as to not influence the working parts.

The anvil is adjustable to either side. Power is applied by the customary tightener and foot lever surrounding the hammer. The hammer is under most perfect

control, striking a blow that will only crack a nut, or of Herculean force.

Of several advantages, one possessed by the Brown Hammer is illustrated by figure 2.

The rock shaft K M rocks on its trunions G. Shaft A drives crank B, which by a pitman is connected with the rock shaft at C. H represents the adjustable sleeve, sliding on outer arm of rock shaft M to change the length of stroke as desired. It is clamped to place by a screw at e. A represents wrist pin, connecting sleeve H to pitman P, the other end of pitman P being attached to the cushion arm actuating the hammer helve.

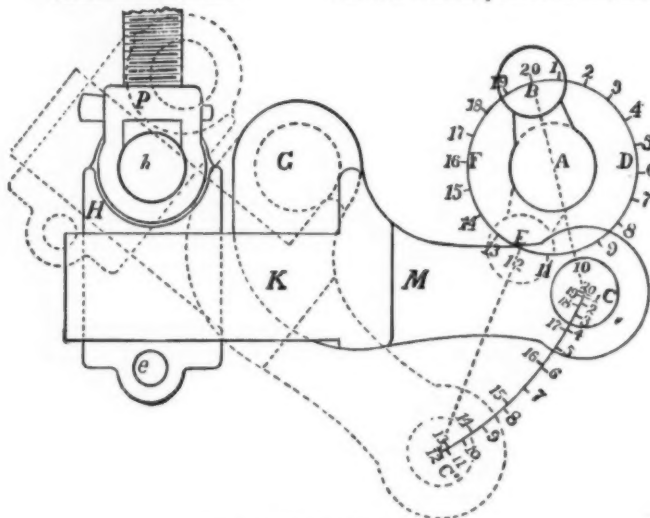


THE BROWN HAMMER—FIG. 1.

Circle B D E F, divided into 20 equal parts, shows the movement of the driving crank B. The curved line C C, numbered on one side 1 to 12, shows the relative movement of rock shaft at C while crank is moving from 1 to 12 in its revolution to raise the hammer; and 12 to 20 is corresponding movement, while the crank completes its revolution through the 8 remaining spaces to its starting point, delivering the blow.

It is thus seen how three-fifths of the revolution of the driving crank raises the hammer, and two-fifths of its revolution brings it down.

Further particulars can be obtained from the Knowlton Manufacturing Company, Rockford, Illinois.



THE BROWN HAMMER—FIG. 2.

A DISPATCH from Jackson, Miss., to the Times-Democrat says: "The Pearl River Oil Mill here is to-day shipping the first 100 tons of its prepared cotton seed to Liverpool, Eng. This mill has been experimenting all winter on a patent process to remove all lint from the seed, and has recently perfected it and is now running night and day. This process will put American cotton seed in competition with Egyptian seed at the English mills, and will bring about a revolution in the oil mill business in the United States."

THE Graniteville and Vaucluse cotton mills, of Augusta, Ga., owned by the same company, according to the annual report of President Hickman, made to the stockholders a few days ago, earned for the past year a net profit of 13½ per cent., despite the dull times. This company has been remarkably successful. Out of its earnings, over and above good yearly dividends, the Vaucluse mill, costing \$361,513.24, was built; and, in addition to this, there is now to the credit

of profit and loss account \$220,831.86,—making the real surplus of the company \$582,345.10. Mr. H. H. Hickman, the able president, has amply demonstrated his success as a cotton manufacturer.

MR. B. HILLYARD, of New Orleans, La., says that he represents a Real Estate Office and Board of Information, and that the parties he represents have large capital that they wish to place in cotton factories in the South, provided the amounts

THE MARKETS.

OFFICE MANUFACTURERS' RECORD, }
BALTIMORE, April 30, 1884. }

Business during the week has moved along as for some time past, with no decided change, and it is quite probable that we will not now see any marked increase in trade until the opening of the fall season. The present outlook seems to indicate abundant crops throughout the country, and should this prove true at harvest time business of all kinds must be stimulated into more life and activity.

In our local market the manufactured iron trade has been quiet, with transactions small and prices as last quoted, viz:

Ref. Bar Iron, 1 to 6x½ to 1.....	1.90@	2 c
" " 1 to 4x½ to 1.....	1.90@	2 c
" " ½ to 2, round and	1.90@	2 c
square.....	1.90@	2 c
Hoop Iron, 1½ wide and upward	2.80@	3 c
Band Iron, from 1½ to 6 in. wide	2.80@	3 c
Horsehoe Iron.....	3.30@	3 c
Norway Nail Rods.....	5.00@	5 ½ c
Black Diamond Cast Steel.....	10.00@	11 c
Machinery Steel.....	4.50@	4 ½ c
Spring Steel.....	3.50@	4 c
Common Horse Nails.....	10.00@	11 c
Railroad Spikes, 5½ x 16.....	2.50@	3 c

Pig iron shows no improvement, and in some sections, as will be seen by our market reports, there is increased depression and lower prices. We quote as follows:

Baltimore Charc. at Wheel Iron (all)	
Baltimore ore.....	\$28.00@29.00
Virginia C. R. Charcoal Wheel Iron.....	28.00@—
Anthracite, No. 1.....	31.00@33.00
" 2.....	30.00@31.00
" 3.....	28.00@29.00
" Mottled and White.....	18.00@17.00

Philadelphia Iron Market.

PHILADELPHIA, April 28, 1884.

The iron trade is even duller than reported last week. There is a strong declining tendency in almost all branches, and demand is correspondingly inactive. Prices of standard and special brands of pig iron are held firmly at \$30 to \$31 for No. 1 foundry; \$19 to \$19.50 for No. 2, and \$18 to \$18.50 for Gray Forge; but for anything inferior prices are weak and low and stocks abundant. If the makers of good irons would accept lower prices, it is probable that a good deal of iron could be sold, but they are firm, and so consumers either buy the smallest possible quantities or else attracted by the lower prices of inferior irons, purchase them. Mill men are not taking very large quantities for forge, as their productions are in very light demand and they do not care to load up stocks at present.

A sale of 500 tons of steel rail crop ends for Baltimore delivery is reported at \$21. Spiegeleisen has sold at \$23.75, and \$28.50 for small lots of 20%. Bessemer is quiet at \$30.50 to \$31 for small lots. There is very little life in foreign irons; very small lots are coming in and the demand is becoming less and less under the competition of domestic makes.

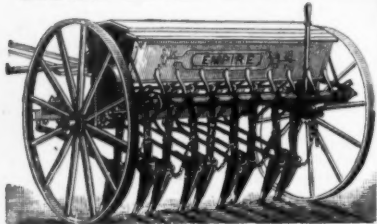
A good deal of refined iron is being sold, but the lots are so small that the market has the appearance of even greater dullness than exists, and prices for all excepting the very best makes are very weak. Western iron is still being offered here, and is taking the place of the Eastern article in some cases. There is an entire absence of large orders, and competition is active for the business that is being presented. 2 cts. is paid for small lots of the best iron, and what is called refined has sold as low as 1.80. Plate, tank and structural iron are quiet, and prices are being shaded considerably to obtain business. The latter is in best demand, although no mills have many orders ahead. Common plate has sold as low as 2.10 to 2.15 in some cases; other quotations are nominally unchanged. Sheet iron is quite active, in small lots mainly. Prices are firmer than they have been, but no advance has been possible as yet. Small sales of muck bars are reported at \$31 to \$32; blooms \$55 for charcoal, \$45 for anthracite. Nails are

are not less than \$200,000, and that the town or local stockholders take an equal amount of stock with themselves.

The timber resources of North Carolina are, we know, immense, and there are some very big trees in that State, but when the Raleigh Chronicle tells us that a good size church, even to the shingles, pews and pulpit, was built from the lumber obtained from one tree, we feel a little dubious about it.

XUM

EMPIRE DRILL.



With Force-Feed Fertilizer Attachment.

Any brand of commercial manure sown with accuracy. **NO GUESS WORK.** Over 8,000 in use, giving unbounded satisfaction.

Sheldon Self-Dump RAKES and Excelsior Horse-Poke.

All three Implements first-class in every respect. Address inquiries to

EMPIRE DRILL CO., 10 Swan St., Baltimore.

ENGINES, BOILERS, &c.

For Sale Low.

- 1 Porter Horizontal Engine, 50-H. P. New
 - 1 " " " 18-H. P. "
 - 1 " Portable " 25-H. P. "
 - 1 " " " 4-H. P. "
 - 1 Birdsall Traction Engine, 10-H. P.
 - 1 " Portable " 10-H. P. "
 - 1 " " " 8-H. P. "
 - 1 " Semi-Portable Engine, 8-H. P. New.
 - 1 Wood, Tabor & Morse, 8-H. P. Second hand.
 - 1 Curley Saw Mill, No. 2. New.
 - 1 Novelty Saw Mill. New.
- Also Engines, both Portable and Stationary, any size, or any size or description of Boilers. The Gardner 3-Cylinder Engines. Snyder's Little Giant Engines and Boilers. Low Prices guaranteed. Send for Estimates, stating size wanted and purpose to be used for, to

WM. R. EMERSON,
6 and 8 North Liberty St.,
BALTIMORE.



THE PERFECT Towel Holder

is selling very fast in the East, and is meeting with well-merited success. This little article should be in every place where a towel is used, as it saves towels and at the same time saves trouble. We will send a sample with prices for 15 cts., or a sample dozen for \$1.00.

Patent applied for. Cut Half Size. **Haff & Co., Box 24, HARTFORD, CONN.**

THE SOMBART Gas Engine

PATENT
Started Instantly. No Fire to Build. No Boiler to Watch. No Engineer Required. No Coal nor Ashes. No Water Needed.
NO DANGER OF EXPLOSION!
Four Sizes, $\frac{1}{2}$, $\frac{3}{4}$, 1 and 1-horse-power, (Actual.)
When stopped all expense ceases. The most convenient and cheapest Motor for small power ever made. Just the thing for Printing Offices, Laundries, Jewelers, Saddlers, Coffee Mills, Small Shops, etc.
Sombart Gas Engine Co., HARTFORD, CONN.
For sale by Jackson & Tyler, 16 S. Howard St., Baltimore.



SCALES,

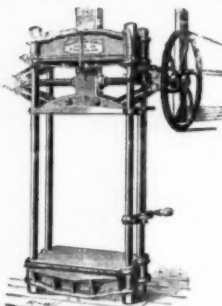
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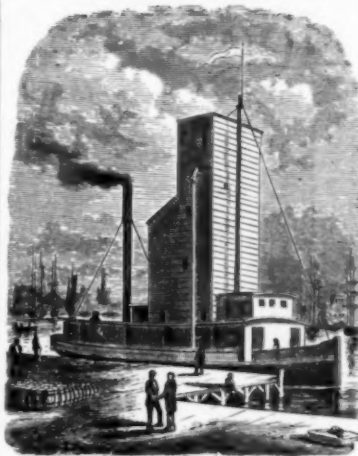
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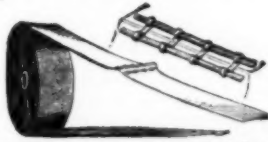


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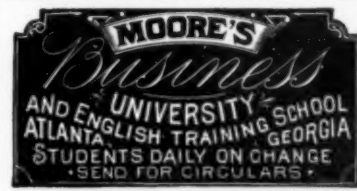
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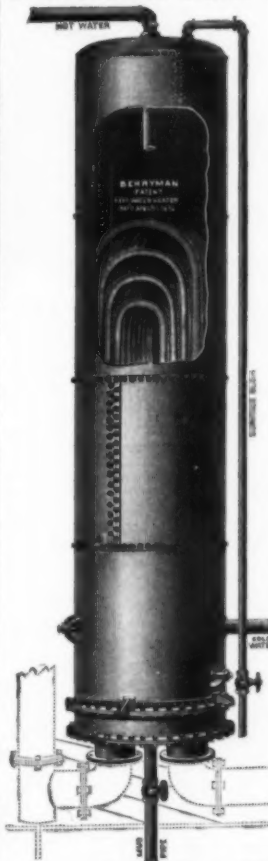
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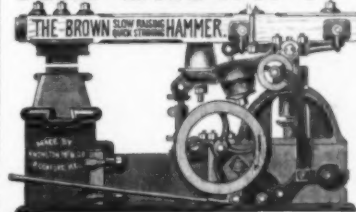
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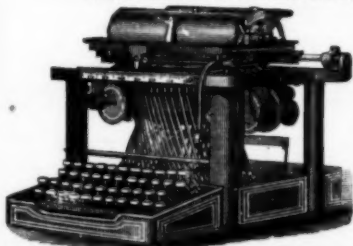
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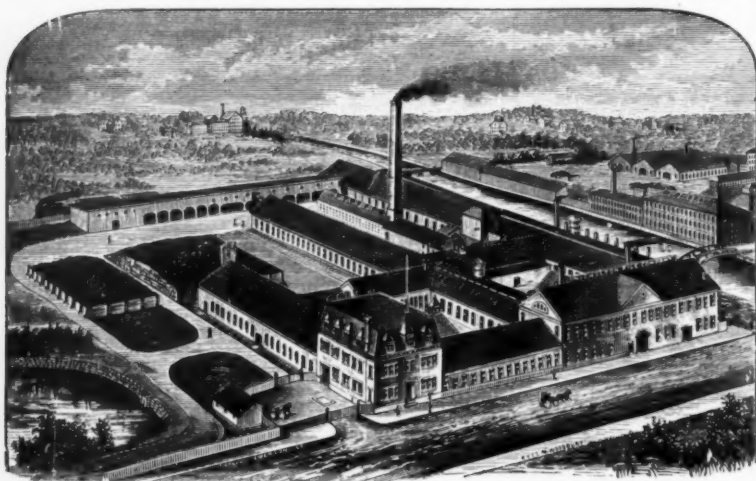
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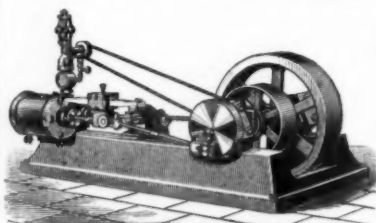
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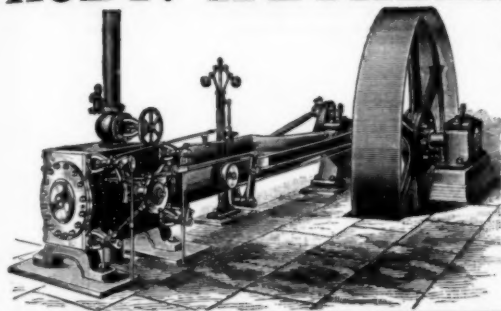
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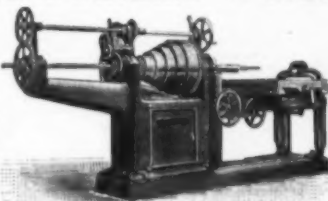
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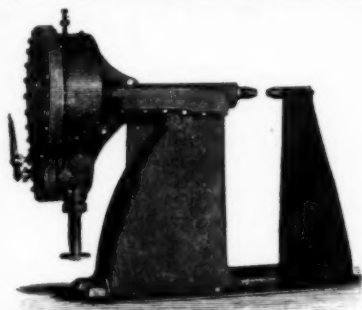
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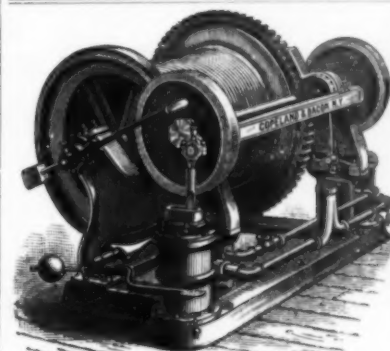


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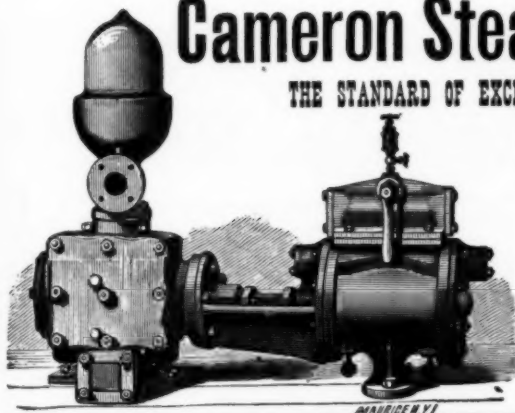
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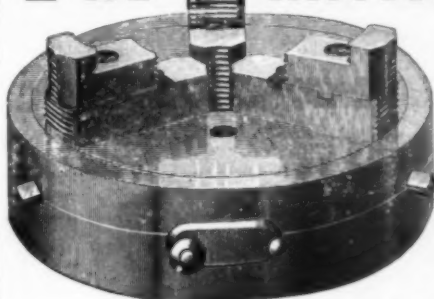
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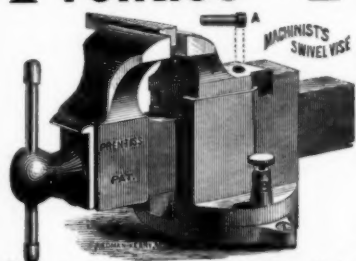
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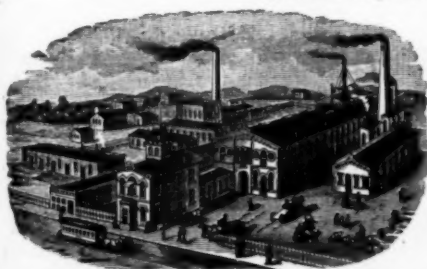
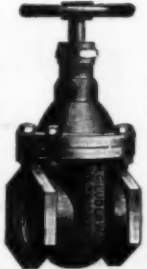
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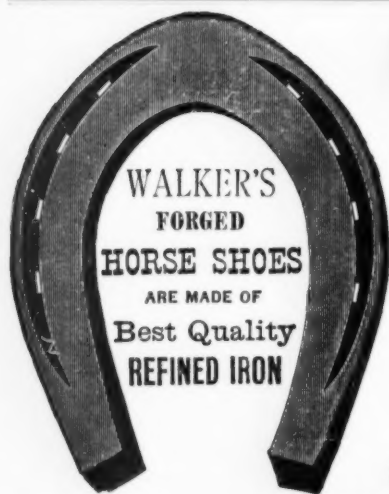
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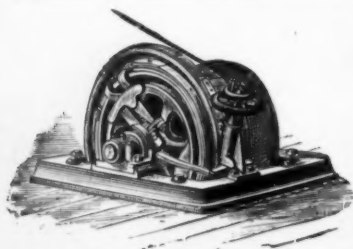
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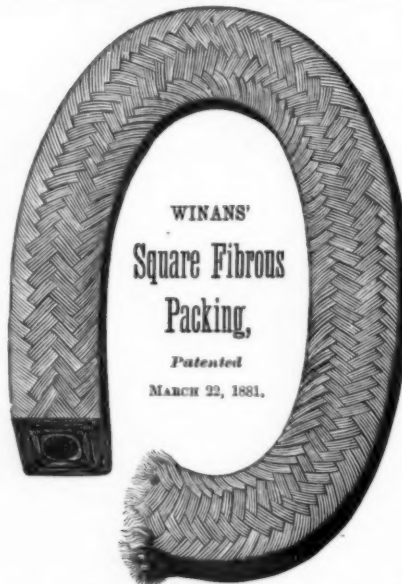
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Kieser's No. 58.....	
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Stebbins Patterns.....	
Stebbins Genuine.....	
Stebbins Tinned Ends.....	
Chase's Lard Metal.....	
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Lincoln's Pattern.....	
Weed's.....	
Boas.....	
Boas, Japanned Finish.....	
Boas, Bronze Finish.....	
NUTS AND WASHERS.	
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Crown Plating Machine.....	
PLANES AND PLANE IRONS.	
Bench, First Quality.....	
Bench, Second Quality.....	
Molding.....	
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Plane Irons, Auburn Tool Co.....	
Plane Irons, Ohio Tool Co.....	
Plane Irons, Sandusky Tool Co.....	
PLIERS AND NIPPERS.	
Button's Patent.....	
Hall's Pat. Compound Lever Cutting Nippers.....	
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Diaston's.....	
Stanley R. & L. Co.'s Pat. Adjustable.....	
Stanley R. & L. Co.'s Non-Adjustable.....	
Chapin's Patent Adjustable.....	
Chapin's Non-Adjustable.....	
Standard Rule Co.'s New Adjustable.....	
Standard Rule Co.'s Non-Adjustable.....	
Pocket Levels.....	
RAIL.	
Sliding Door, Wrought Brass.....	
Sliding Door, Bronze Wrt. Iron.....	
Sliding Door, Iron, Painted.....	
Barn Door.....	
Per 100 feet.....	
B. D. for N. E. Hangers.....	
Per 100 feet.....	
RIVETS.	
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In bulk, new list, Dec. 10, 1881.....	
Copper Rivets and Burrs.....	
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Per 100 lbs.....	
RODS.	
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Stair, Black Walnut.....	
RULES.	
Boxwood.....	
Ivory.....	
Chapin's.....	
Standard.....	
Stanley.....	
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Mrs. Pott's Irons.....	
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Comb'd Plaster and Sad Iron.....	
Common Sad Irons.....	
SAND PAPER.	
Baeder & Adamson's Flint, 000/1 1/2 \$4.00 per m.....	
Baeder & Adamson's Flint, 2 3/4 \$3.50 per m.....	
Baeder & Adamson's Flint, Assorted 1 1/2 \$3.75 per m.....	
Baeder & Adamson's Emery 1 1/2 \$3.50 per m.....	
J. Bartle's Sand, Flint and Emery Paper.....	
SASH COORD.	
Common.....	
Patent.....	
Silver Braided Lake Hemp.....	
Silver Braided Lake White Cotton.....	
Silver Braided Lake Drab Cotton.....	
Silver Lake Cable Laid, Bengall unbleached Hemp, 17 cts.....	
Russian Hemp, 19 cts.....	
Italian Hemp, 34 cts.....	
SASH WEIGHTS.	
Solid Eyes, in 500-lb. lots and over.....	
SAUSAGE STUFFERS OR FILLERS.	
Miles.....	
Perry.....	
Enterprise Mfg Co.....	
Monarch.....	
SAWS.	
Boynton's Lightning Cross Cuts, new list.....	
Boynton's Circular and Mill.....	
Boynton's Ice.....	
Boynton's Lightning Hand, Panel and Rip.....	
Diaston's Circular.....	
Diaston's Mill.....	
Diaston's Cross Cut.....	
Diaston's Hand, Panel, Rip, &c.....	
Hubbard, Bakewell & Co. Cir. Saw.....	
Hubbard, Bakewell & Co. Cross Cut.....	
Hubbard, Bakewell & Co. One-Man's X Cut.....	
Hubbard, Bakewell & Co. Mill Saws.....	
Peace Circular and Mill.....	
Peace Hand, Panel and Rip.....	
Peace Cross Cuts.....	
Peace Hand Saws, all widths.....	
Webster Cross Cut, with Handles.....	
Griffin's Hack Saws and Blades.....	
SAW FRAMES.	
White.....	
Saw Rods.....	
SAW SETS.	
Stillman's Genuine.....	
Stillman's Imitation.....	
Common Lever.....	
Leach's.....	
Hammer, Hotchkiss.....	
Aiken's Genuine.....	
Aiken's Imitation.....	
Diaston's.....	
Morrill's.....	
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Hatch, Tea, No. 161.....	
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Chicago Scale Co.....	Special dis
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Window Corner Irons, No. 3, doz. \$1.25.....	
Door.....	dis 40
Door Latches, 1/2 dozen.....	dis 50
Porter's Patent Window and Door Screen Frames.....	dis 50
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American (Cast) Iron.....	dis 70
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Tinners.....	dis 15
Conn Shears.....	dis 80
Norfolk Shear Co.....	dis 75
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Bright and Annealed.....	dis 15
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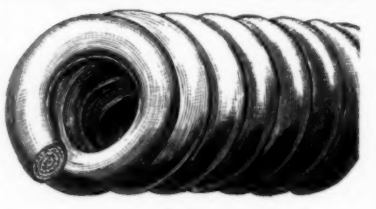
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M-tailie Shingles.....	dis 25
Hopper Cherry Seeders.....	dis 25

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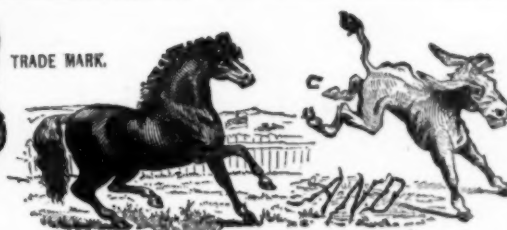
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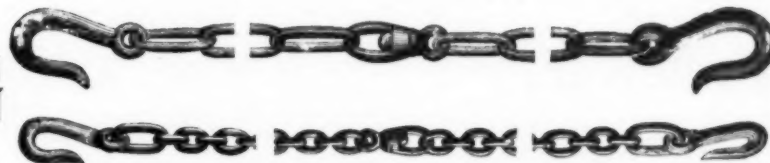


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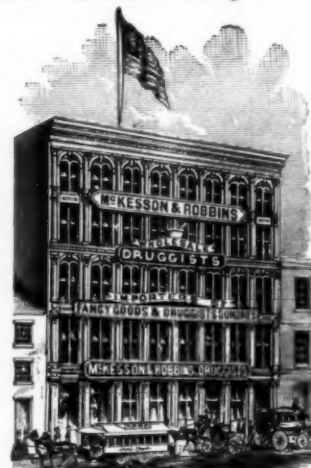
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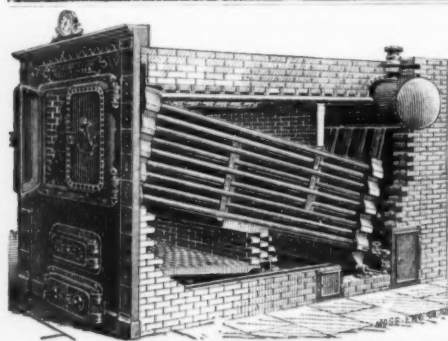
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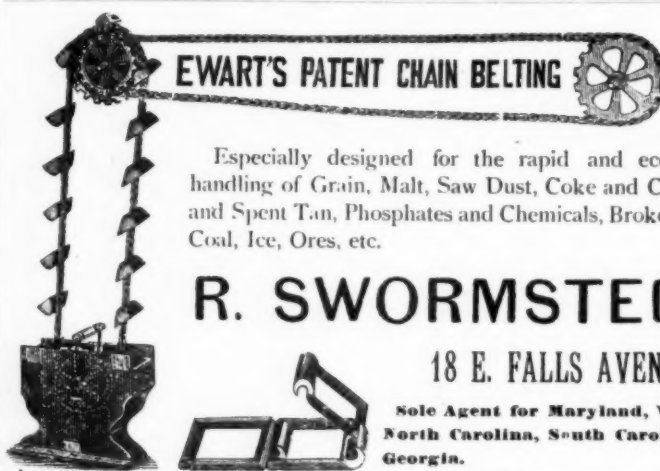
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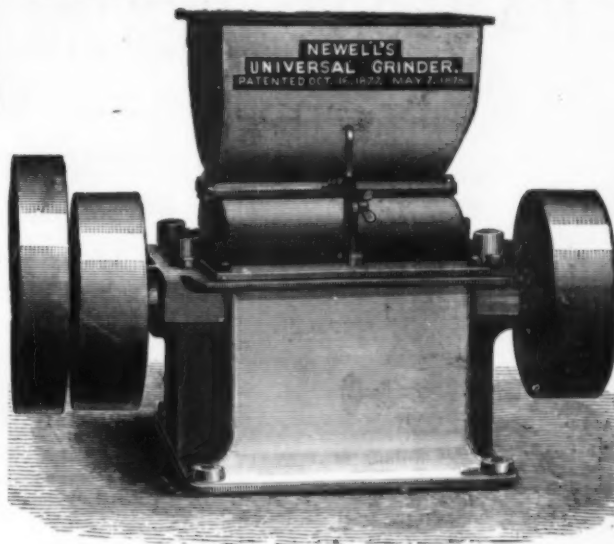
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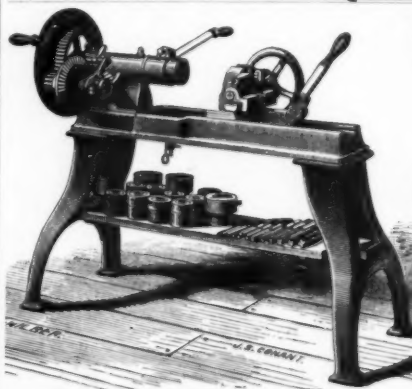
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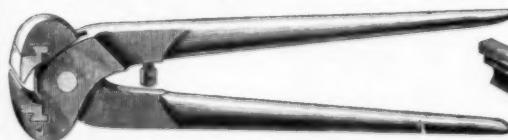
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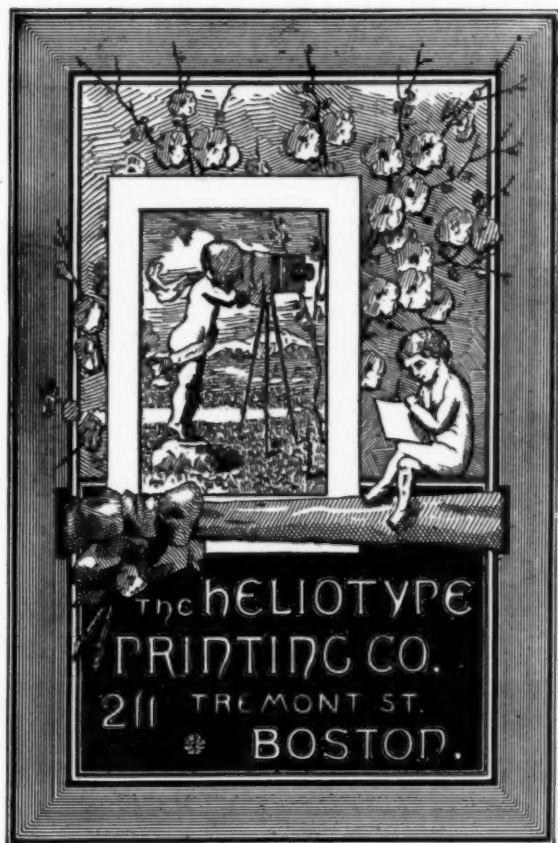
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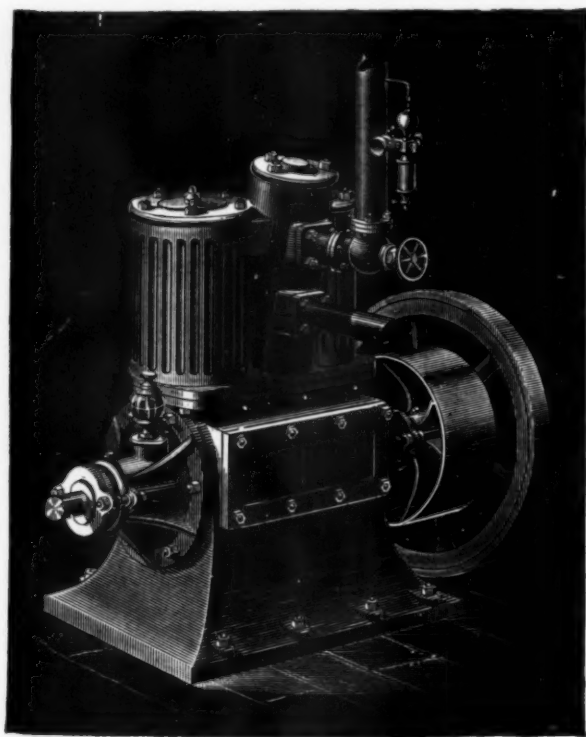
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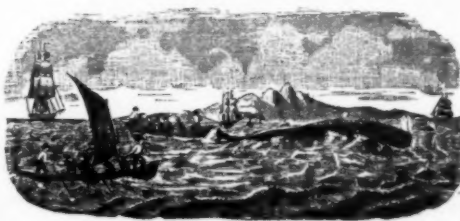
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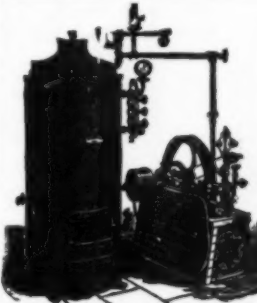
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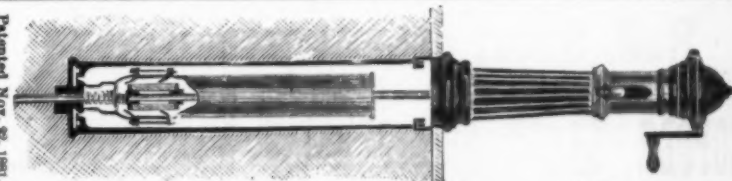
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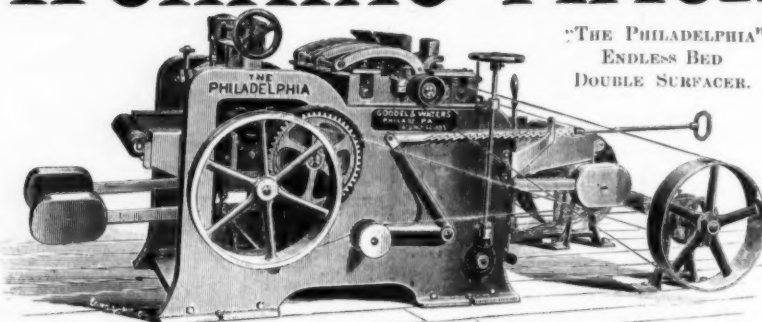
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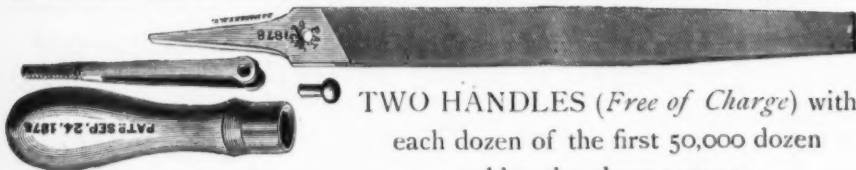
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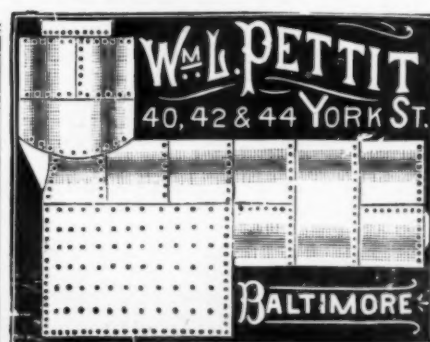
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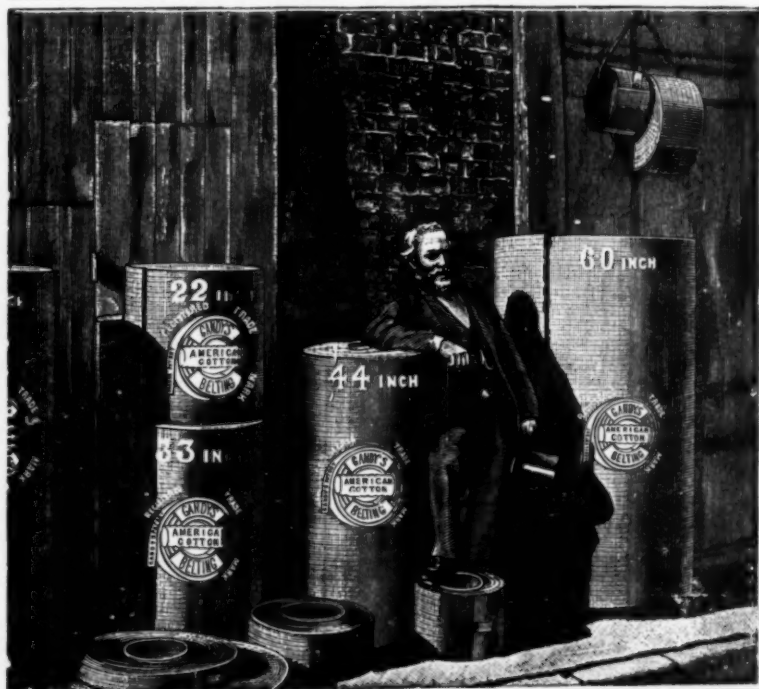
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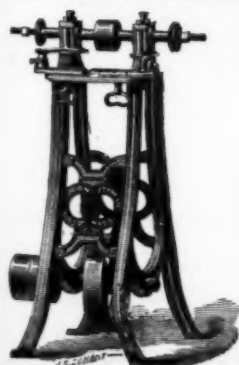
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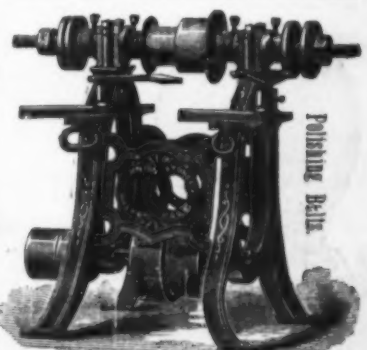
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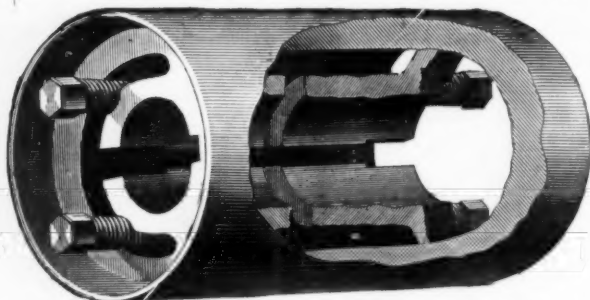
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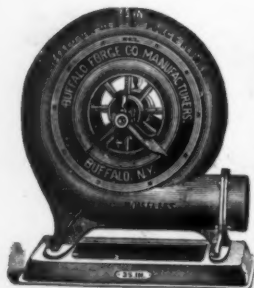
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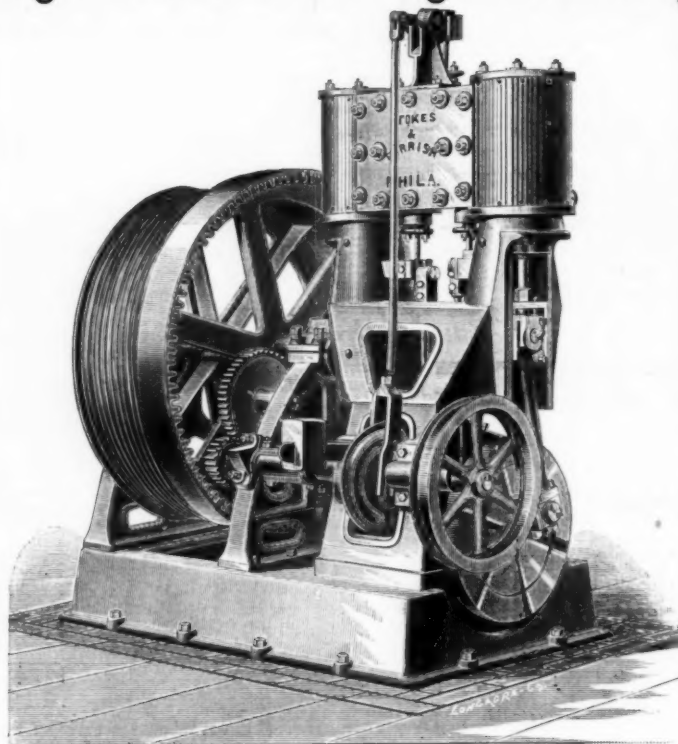
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